

## ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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August 30, 2002

Mr. Jimmy Palmer  
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Attention: Mr. Tom McGill, Chief  
West Standards, Monitoring and TMDL Section

Dear Mr. Palmer:

The Alabama Department of Environmental Management has completed a review of the state's water quality standards, and certain revisions have been adopted by the Environmental Management Commission. In accordance with the requirements of federal rules and regulations governing the development, review, and revision of water quality standards, we are submitting the following materials:

1. Chapter 335-6-10 (Water Quality Criteria) of the Department's Administrative Code, including revisions adopted by the Environmental Management Commission on April 9, 2002, and June 25, 2002 (Enclosure 1);
2. Chapter 335-6-11 (Water Use Classifications for Interstate and Intrastate Waters) of the Department's Administrative Code, including revisions adopted by the Environmental Management Commission on April 9, 2002 (Enclosure 2); and
3. Use Attainability Analyses for two stream segments (Valley Creek and Village Creek) upgraded from Agricultural and Industrial Water Supply to Limited Warmwater Fishery (Enclosures 3 and 4).

In addition, we are enclosing other materials for your information and use in reviewing the recent revisions, as follows:

4. Resolution of the Environmental Management Commission, dated April 9, 2002, regarding adoption of revisions to Rules 335-6-10-.11 and 335-6-11-.02 (Enclosure 5);



Mr. Jimmy Palmer  
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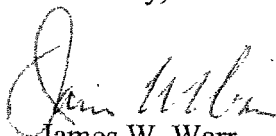
5. Letter from Mr. Jerry L. Bassett to Mr. James Warr, dated May 15, 2002, regarding action by the Alabama Legislature's Joint Committee on Administrative Regulation Review with respect to the Rule 335-6-11-.02 revisions adopted by the Environmental Management Commission on April 9, 2002 (Enclosure 6);
6. Resolution of the Environmental Management Commission, dated June 25, 2002, regarding adoption of Rule 335-6-10-.12 (Enclosure 7);
7. Resolution of the Environmental Management Commission, dated June 25, 2002, regarding adoption of revisions to Rule 335-6-11-.02 (Enclosure 8);
8. Hearing record and related documents concerning the public hearing held on February 19, 2002, (Enclosure 9); and
9. Hearing record and related documents concerning the public hearing held on June 4, 2002 (Enclosures 10 and 11).

Under provisions of the Alabama Administrative Act, the changes to Rule 335-6-10-.11 were effective May 16, 2002, the changes to Rule 335-6-11-.02 were effective June 28, 2002, and the addition of Rule 335-6-10-.12 was effective August 1, 2002. We have requested from Attorney General Bill Pryor (or his designee) certification that the revisions adopted by the Environmental Management Commission on April 9, 2002, and June 25, 2002, were adopted pursuant to state law. We will provide the certification to you as soon as it is available.

These revisions to water quality standards reflect Alabama's continuing commitment to water quality improvement. We appreciate the guidance and cooperation provided by you and your staff, particularly as it relates to antidegradation implementation and resolution of use classification issues.

We are pleased to submit these revisions, and will be happy to respond to any questions you may have.

Sincerely,

  
James W. Warr  
Director

JWW/JEM/nf

Enclosures

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
Water Division - Water Quality Program**

**Chapter 335-6-10  
Water Quality Criteria**

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**335-6-10-.01      Purpose.**

(1) Title 22, Section 22-22-1 et seq., Code of Alabama 1975, includes as its purpose "... to conserve the waters of the State and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; to provide for the prevention, abatement and control of new or existing water pollution; and to cooperate with other agencies of the State, agencies of other states and the federal government in carrying out these objectives."

(2) Water quality criteria, covering all legitimate water uses, provide the tools and means for determining the manner in which waters of the State may be best utilized, provide a guide for determining waste treatment requirements, and provide the basis for standards of quality for State waters and portions thereof. Water quality criteria are not intended to freeze present uses of water, nor to exclude other uses not now possible. They are not a device to insure the lowest common denominator of water quality, but to encourage prudent use of the State's water resources and to enhance their quality and productivity commensurate with the stated purpose of Title 22, Section 22-22-1 et seq., Code of Alabama 1975.

(3) Water quality criteria herein set forth have been developed by the Commission for those uses of surface waters known and expected to exist over the State. They are based on present scientific knowledge, experience and judgment. Characteristics or parameters included in the criteria are those

of fundamental significance to a determination of water quality and are those which are and can be routinely monitored and compared to data that are generally available. It is the intent that these criteria will be applied only after reasonable opportunity for mixture of wastes with receiving waters has been afforded. The reasonableness of the opportunity for mixture of wastes and receiving waters shall be judged on the basis of the physical characteristics of the receiving waters and approval by the Department of the method in which the discharge is physically made.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

### **335-6-10-.02      Definitions.**

(1) "Commission" means the Environmental Management Commission, established by the Environmental Management Act, Code of Alabama 1975, §§22-22A-1 to 22-22A-16.

(2) "Department" means the Alabama Department of Environmental Management, established by the Alabama Environmental Management Act, Code of Alabama 1975, §§22-22A-1 to 22-22A-16.

(3) "existing uses" means those legitimate beneficial uses of a water body attained in fact on or after November 28, 1975, whether or not they are included as classified uses in ADEM Administrative Code Rule 335-6-11-.02.

(4) "industrial waste" means liquid or other wastes resulting from any process of industry, manufacture, trade or business or from the development of natural resources.

(5) "NPDES" means National Pollutant Discharge Elimination System.

(6) "other wastes" means all other substances, whether liquid, gaseous or solid, from all other sources including, but not limited to, any vessels, or other conveyances traveling or using the waters of this State, except industrial wastes or sewage, which may cause pollution of any waters of the State.

(7) "pollutant" includes but is not limited to dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. Pollutant does not mean (a) sewage from vessels; or (b) water, gas, or other material which is



injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State, and if the Department determines that such injection or disposal will not result in the degradation of ground or surface water resources.

(8) "pollution" means the discharge of a pollutant or combination of pollutants.

(9) "sewage" means water-carried human wastes from residences, buildings, industrial establishments or other places including, but not limited to, any vessels, or other conveyances traveling or using the waters of this State, together with such ground, surface, storm or other waters as may be present.

(10) "State waters" or "waters of the State" means all waters of any river, stream, watercourse, pond, lake, coastal, or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

### **335-6-10-.03      Water Use Classifications.**

- (1) Outstanding Alabama Water
- (2) Public Water Supply
- (3) Swimming and Other Whole Body Water-Contact Sports
- (4) Shellfish Harvesting
- (5) Fish and Wildlife
- (6) Limited Warmwater Fishery
- (7) Agricultural and Industrial Water Supply

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; December 30, 1992; September 7, 2000.

**335-6-10-.04      Antidegradation Policy.**

(1)            The purpose and intent of the water quality standards is to conserve the waters of the State of Alabama and to protect, maintain and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational and other legitimate beneficial uses; and to provide for the prevention, abatement and control of new or existing water pollution.

(2)            Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Uses and the water quality to support such uses were established through public participation in the initial establishment, and periodic review, of water quality standards. Should the Department determine that an existing use is not encompassed in the classification of a waterbody, that use shall be recognized.

(3)            Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected, except that a new or increased discharge of pollutants may be allowed, after intergovernmental coordination and public participation pursuant to applicable permitting and management processes, when the person proposing the new or increased discharge of pollutants demonstrates that the proposed discharge is necessary for important economic or social development. In such cases, water quality adequate to protect existing uses fully shall be maintained. All new and existing point source discharges shall be subject to the highest statutory and regulatory requirements, and nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

(4)            Where high quality waters constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(5)            Developments constituting a new or increased source of thermal pollution shall assure that such release will not impair the propagation of a balanced indigenous population of fish and aquatic life.

(6)            In applying these policies and requirements, the State of Alabama will recognize and protect the interests of the federal government. Toward this end the Department will consult and cooperate with the Environmental Protection Agency on all matters affecting the federal interest.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

**335-6-10-.05      General Conditions Applicable to All Water Quality Criteria.**

(1)            The quality of any waters receiving sewage, industrial wastes or other wastes, regardless of their use, shall be such as will not cause the best usage of any other waters to be adversely affected by such sewage, industrial wastes or other wastes.

(2)            Tests or analytical procedures to determine compliance or noncompliance with water quality criteria shall be in accordance with the methods specified in 40 CFR 136.3 (1990). Where other tests or analytical procedures are found to be more applicable and satisfactory, these may be used upon acceptance and approval by the Department.

(3)            In making any tests or analytical determinations to determine compliance or noncompliance with water quality criteria, samples shall be collected in such manner and at such locations approved by a duly authorized representative of the Department as being representative of the receiving waters after reasonable opportunity for dilution and mixture with the wastes discharged thereto. Mixing zones, i.e., that portion of the receiving waters where mixture of effluents and natural waters take place, shall not preclude passage of free-swimming and drifting aquatic organisms to the extent that their populations are significantly affected.

(4)            Natural waters may, on occasion, have characteristics outside of the limits established by these criteria. The criteria contained herein relate to the condition of waters as affected by the discharge of sewage, industrial wastes or other wastes, not to conditions resulting from natural forces.

(5)            All waters, where attainable, shall be suitable for recreation in and on the waters during the months of June through September except that recreational use is not recommended in the vicinity of discharges or other conditions which the Department or the Department of Public Health does not control.

(6)            Where necessary to attain compliance with a new water quality standard, existing permits for the discharge of wastewaters shall be modified or reissued to limit the discharge of a substance causing or contributing to the failure of a water of the state to meet the new standard. Compliance with the modified limit shall be required as soon as practical, but in all cases within three years of the adoption of the new standard.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

**335-6-10-.06      Minimum Conditions Applicable to All State Waters.**

The following minimum conditions are applicable to all State waters, at all places and at all times, regardless of their uses:

(a) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes that will settle to form bottom deposits which are unsightly, putrescent or interfere directly or indirectly with any classified water use.

(b) State waters shall be free from floating debris, oil, scum, and other floating materials attributable to sewage, industrial wastes or other wastes in amounts sufficient to be unsightly or interfere directly or indirectly with any classified water use.

(c) State waters shall be free from substances attributable to sewage, industrial wastes or other wastes in concentrations or combinations which are toxic or harmful to human, animal or aquatic life to the extent commensurate with the designated usage of such waters.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981.

**335-6-10-.07      Toxic Pollutant Criteria Applicable to State Waters.**

(1) The U. S. Environmental Protection Agency has listed the chemical constituents given in Table 1 as toxic pollutants pursuant to Section 307(a)(1) of the Federal Water Pollution Control Act (FWPCA). Concentrations of these toxic pollutants in State waters shall not exceed the criteria indicated in Table 1 to the extent commensurate with the designated usage of such waters.

(a) The freshwater and marine aquatic life criteria for certain of the pollutants are dependent on hardness or pH. For these pollutants, the criteria are given by the following equations.

1. Cadmium

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(1.128[\ln(\text{hardness in mg/l as CaCO}_3)] - 3.828)} \quad (\text{Eq. 1})$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.7852[\ln(\text{hardness in mg/l as CaCO}_3)] - 3.490)} \quad (\text{Eq. 2})$$

## 2. Chromium (trivalent)

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8190[\ln(\text{hardness in mg/l as CaCO}_3)]+3.688)} \quad \text{(Eq. 3)}$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8190[\ln(\text{hardness in mg/l as CaCO}_3)]+1.561)} \quad \text{(Eq. 4)}$$

## 3. Copper

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.9422[\ln(\text{hardness in mg/l as CaCO}_3)]-1.464)} \quad \text{(Eq. 5)}$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8545[\ln(\text{hardness in mg/l as CaCO}_3)]-1.465)} \quad \text{(Eq. 6)}$$

## 4. Lead

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(1.273[\ln(\text{hardness in mg/l as CaCO}_3)]-1.460)} \quad \text{(Eq. 7)}$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(1.273[\ln(\text{hardness in mg/l as CaCO}_3)]-4.705)} \quad \text{(Eq. 8)}$$

## 5. Nickel

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8460[\ln(\text{hardness in mg/l as CaCO}_3)]+3.3612)} \quad \text{(Eq. 9)}$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8460[\ln(\text{hardness in mg/l as CaCO}_3)]+1.1645)} \quad \text{(Eq. 10)}$$

## 6. Pentachlorophenol

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{[1.005(\text{pH})-4.830]} \quad \text{(Eq. 11)}$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{[1.005(\text{pH})-5.290]} \quad (\text{Eq. 12})$$

7. Silver

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(1.72[\ln(\text{hardness in mg/l as CaCO}_3)]-6.52)} \quad (\text{Eq. 13})$$

8. Zinc

(i) freshwater acute aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8473[\ln(\text{hardness in mg/l as CaCO}_3)]+0.8604)} \quad (\text{Eq. 14})$$

(ii) freshwater chronic aquatic life:

$$\text{conc. } (\mu\text{g/l}) = e^{(0.8473[\ln(\text{hardness in mg/l as CaCO}_3)]+0.7614)} \quad (\text{Eq. 15})$$

(b) The marine aquatic life criteria apply only to interstate and coastal waters of the Mobile River - Mobile Bay Basin and interstate and coastal waters of the Perdido River Basin, as identified in Rule 335-6-11-.02 of the Department's regulations. The acute aquatic life criteria apply to all waters of the State. The chronic aquatic life criteria apply only to waters classified Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water-Contact Sports, Shellfish Harvesting, Fish and Wildlife, and Limited Warmwater Fishery, as identified in Rule 335-6-11-.02 of the Department's regulations.

(c) For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years ( $7Q_{10}$ ) shall be the basis for applying the chronic aquatic life criteria, except as noted in Rule 335-6-10-.09(6), and the minimum 1-day low flow that occurs once in 10 years ( $1Q_{10}$ ) shall be the basis for applying the acute aquatic life criteria; except that where a permit specifies a minimum flow greater than  $7Q_{10}$ , the specified minimum flow may be used as the basis for applying the acute and chronic aquatic life criteria for that permit.

(d) Except as noted in Table 1, two human health criteria are provided for each pollutant--a criterion for consumption of water and fish, and a criterion for consumption of fish only. For certain pollutants, the human health criterion for consumption of water and fish may represent a maximum contaminant level (MCL) developed under the Safe Drinking Water Act.

1. For pollutants classified by the U.S. Environmental Protection Agency as non-carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.

(i) Consumption of water and fish:

$$\text{conc. (mg/l)} = (\text{HBW} \times \text{RfD}) / [(\text{FCR} \times \text{BCF}) + \text{WCR}] \quad (\text{Eq. 16})$$

(ii) Consumption of fish only:

$$\text{conc. (mg/l)} = (\text{HBW} \times \text{RfD}) / (\text{FCR} \times \text{BCF}) \quad (\text{Eq. 17})$$

where: HBW = human body weight, set at 70 kg

RfD = reference dose, in mg/(kg-day)

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

(iii) The values used for the reference dose (RfD) shall be values available through the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS), and values used for the bioconcentration factor (BCF) shall be values contained in ambient water quality criteria documents published by the U.S. Environmental Protection Agency, except where other values are established pursuant to subparagraph (1)(g). The RfD and BCF values for specific pollutants are provided in Appendix A.

2. For pollutants classified by the U.S. Environmental Protection Agency as carcinogens, the criteria shall be given by the following equations, except where numeric values are given in Table 1.

(i) Consumption of water and fish:

$$\text{conc. (mg/l)} = (\text{HBW} \times \text{RL}) / (\text{CPF} \times [(\text{FCR} \times \text{BCF}) + \text{WCR}]) \quad (\text{Eq. 18})$$

(ii) Consumption of fish only:

$$\text{conc. (mg/l)} = (\text{HBW} \times \text{RL}) / (\text{CPF} \times \text{FCR} \times \text{BCF}) \quad (\text{Eq. 19})$$

where: HBW = human body weight, set at 70 kg

RL = risk level, set at  $1 \times 10^{-5}$

CPF = cancer potency factor, in (kg-day)/mg

FCR = fish consumption rate, set at 0.030 kg/day

BCF = bioconcentration factor, in l/kg

WCR = water consumption rate, set at 2 l/day

(iii) The values used for the cancer potency factor (CPF) shall be values available through the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS), and values used for the bioconcentration factor (BCF) shall be values contained in ambient water quality criteria documents published by the U.S. Environmental Protection Agency, except where other values are established pursuant to subparagraph (1)(g). The CPF and BCF values for specific pollutants are provided in Appendix A.

(e) The criteria given in Table 1 for consumption of water and fish, or computed from equation 16 or equation 18 for consumption of water and fish, shall apply only to those waters of the State classified Public Water Supply, as identified in Rule 335-6-11-.02 of the Department's regulations. The criteria given in Table 1 for consumption of fish only, or computed from equation 17 or equation 19 for consumption of fish only, shall apply to all waters of the State.

(f) For the purposes of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years (7Q<sub>10</sub>) shall be the basis for applying the human health criteria for pollutants classified as non-carcinogens, and the mean annual flow shall be the basis for applying the human health criteria for pollutants classified as carcinogens; except that where a permit specifies a minimum flow greater than 7Q<sub>10</sub>, the specified minimum flow may be used as the basis for applying the human health criteria for pollutants classified as non-carcinogens for that permit.

(g) Numeric criteria may be computed by the Department from equations 16, 17, 18, and 19 using values for the reference dose (RfD), cancer potency factor (CPF), and bioconcentration factor (BCF) determined by the Department in consultation with the State Department of Public Health after review of information available from sources other than the U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) or ambient water quality criteria documents. Such criteria, or the RfD, CPF, and BCF values used to compute criteria, shall not be effective until adopted following established rulemaking procedures.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** March 2, 1990. **Amended:** April 3, 1991; May 28, 1992; August 29, 1994; May 30, 1997; September 7, 2000; January 12, 2001.

**335-6-10-.08      Waste Treatment Requirements.** The following treatment requirements apply to all industrial waste discharges, sewage treatment plants, and combined waste treatment plants:

(a) As a minimum, secondary treatment or "equivalent to secondary treatment" as provided for in rules and regulations promulgated by the U.S. Environmental Protection Agency at 40 CFR Part 133 (1990), shall be applied to all waste discharges. The term "secondary treatment" is applied to



biologically degradable waste and is interpreted to mean a facility which at design flow is capable of removing substantially all floating and settleable solids and to achieve a minimum removal of 85 percent of both the 5-day biochemical oxygen demand and suspended solids which, in the case of municipal wastes, is generally considered to produce an effluent quality containing a BOD<sub>5</sub> concentration of 30 mg/l and a suspended solids concentration of 30 mg/l. Disinfection, where necessary, will also be required. Waste treatment requirements also include those established under the provisions of Sections 301, 304, 306, and 307 of the Federal Water Pollution Control Act (FWPCA). In addition, the Department may require secondary treatment of biologically degradable industrial wastewaters when the application of guidelines published under federal law do not produce a similar reduction in the parameters of concern. In the application of this requirement, consideration will be given to efficiencies achieved through in-process improvements.

(b) In all cases an analysis of water use and flow characteristics for the receiving stream shall be provided to determine the degree of treatment required. Where indicated by the analysis, a higher degree of treatment may be required.

(c) The minimum 7-day low flow that occurs once in 10 years shall be the basis for design criteria.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991.

### 335-6-10-.09      Specific Water Quality Criteria.

#### (1)                    OUTSTANDING ALABAMA WATER

(a)                    Best usage of waters: activities consistent with the natural characteristics of the waters.

(b)                    Conditions related to best usage:

1.                    High quality waters that constitute an outstanding Alabama resource, such as waters of state parks and wildlife refuges and waters of exceptional recreational or ecological significance, may be considered for classification as an Outstanding Alabama Water (OAW).

(c)                    Specific criteria:

1.                    Sewage, industrial wastes, or other wastes:

(i)                    Existing point source discharges to an Outstanding Alabama Water shall be allowed; however, within three years of assignment of

the OAW classification or at permit renewal, whichever is later, existing point sources shall be required to meet the effluent limitations specified for new point source discharges in subparagraph (ii) hereof.

(ii) New point source discharges or expansions of existing point source discharges shall not be allowed unless a thorough evaluation of all practicable treatment and disposal alternatives by the permit applicant has demonstrated to the satisfaction of the Department that there is no feasible alternative to discharge to the waters classified OAW. At a minimum, domestic wastewater discharges shall be required to meet monthly average effluent limitations of 15 mg/l biochemical oxygen demand (5-day), 3 mg/l ammonia nitrogen, and 6 mg/l dissolved oxygen, and shall be required to provide disinfection of the effluent. Non-domestic wastewater discharges shall be required to provide a comparably stringent level of treatment as determined by the Department.

(iii) Effluent limitations for new point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, waters classified OAW shall be established by the Department such that the impact of the discharge within the waters classified OAW is no greater than if the discharge occurred at the OAW boundary at the treatment levels specified in subparagraph (ii) hereof.

(iv) All NPDES permits shall contain toxics limits that will ensure compliance with all applicable water quality standards. Such limits shall be acute and chronic toxicity limits for individual toxic substances, whole effluent toxicity limits, or both. For permittees subject to whole effluent toxicity limitations, both acute and chronic testing will be required. Whole effluent acute toxicity will be demonstrated if the effluent causes more than 10 percent mortality of test organisms when tested at an effluent concentration of 100 percent. For permittees whose discharge will result in an in-stream waste concentration of 10 percent or more, whole effluent chronic toxicity limits will be based on an in-stream concentration of 100 percent; for permittees whose discharge will result in an in-stream waste concentration of less than 10 percent, whole effluent chronic toxicity limits will be based on the in-stream waste concentration.

(v) Nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

(vi) All NPDES permits and nonpoint sources shall incorporate or employ water pollution prevention or waste reduction measures as established by the Department.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause

the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been classified by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86° F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5° F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4° F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5° F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i)-(iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5.5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5.5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to hydroelectric turbine discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5.5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5.5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5.5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof.

6. Taste, odor, and color-producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria: bacteria of the fecal coliform group shall not exceed a geometric mean of 100/100 ml in coastal waters and 200/100 ml in other waters. The geometric mean shall be calculated from no less than five

samples collected at a given station over a 30-day period at intervals not less than 24 hours.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(2) PUBLIC WATER SUPPLY

(a) Best usage of waters: source of water supply for drinking or food-processing purposes.\*

(b) Conditions related to best usage: the waters, if subjected to treatment approved by the Department equal to coagulation, sedimentation, filtration and disinfection, with additional treatment if necessary to remove naturally present impurities, and which meet the requirements of the Department, will be considered safe for drinking or food-processing purposes.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5.

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\* **NOTE:** In determining the safety or suitability of waters for use as sources of water supply for drinking or food-processing purposes after approved treatment, the Commission will be guided by the physical and chemical standards specified by the Department.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86° F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5° F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4° F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5° F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i) - (iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times;

except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances; color producing; heated liquids; or other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, and only such temperatures as will not render the waters unsafe or unsuitable as a source of water supply for drinking or food-processing purposes, or exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish, wildlife and aquatic life, or adversely affect the aesthetic value of waters for any use under this classification.

6. Taste and odor producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as will not cause taste and odor difficulties in water supplies which cannot be corrected by treatment as specified under subparagraph (b), or impair the palatability of fish.

7. Bacteria:

(i) Bacteria of the fecal coliform group shall not exceed a geometric mean of 1000/100 ml; nor exceed a maximum of 2000/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. The membrane filter counting procedure will be preferred, but the multiple tube technique (five-tube) is acceptable.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 100/100 ml in coastal waters and 200/100 ml in other waters. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: no radionuclide or mixture of radionuclides shall be present at concentrations greater than those specified by the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters, without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(3) SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS

(a) Best usage of waters: swimming and other whole body water-contact sports.\*

(b) Conditions related to best usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports. The quality of waters will also be suitable for the propagation of fish, wildlife and aquatic life. The quality of salt waters and estuarine waters to which this classification is assigned will be suitable for the propagation and harvesting of shrimp and crabs.

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\* **NOTE:** In assigning this classification to waters intended for swimming and water-contact sports, the Commission will take into consideration the relative proximity of discharges of wastes and will recognize the potential hazards involved in locating swimming areas close to waste discharges. The Commission will not assign this classification to waters, the bacterial quality of which is dependent upon adequate disinfection of waste and where the interruption of such treatment would render the water unsafe for bathing.



(c) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For estuarine waters and salt waters to which this classification is assigned, wastes as described herein shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86° F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5° F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4° F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5° F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i)-(iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water

Pollution Control Act (FWPCA), 33 U.S.C. §1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances; color producing substances; odor producing substances; or other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances or wastes, as will not render the water unsafe or unsuitable for swimming and water-contact sports; exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish, wildlife, and aquatic life or, where applicable, shrimp and crabs; impair the palatability of fish, or where applicable, shrimp and crabs; impair the waters for any other usage established for this classification or unreasonably affect the aesthetic value of waters for any use under this classification.

6. Bacteria:

(i) Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes\* , are not acceptable for swimming or other whole body water-contact sports.

(ii) In all other areas, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 100/100 ml in coastal waters and 200/100 ml in other waters. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters.

(iii) The policy of nondegradation of high quality waters shall be stringently applied to bacterial quality of recreational waters.

7. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirement of the State Department of Public Health.

8. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters, without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(4) SHELLFISH HARVESTING

(a) Best usage of waters: propagation and harvesting of shellfish for sale or use as a food product.

(b) Conditions related to best usage: waters will meet the sanitary and bacteriological standards included in the latest edition of the National Shellfish Sanitation Program Manual of Operations, Sanitation of

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\* **NOTE:** In assigning this classification to waters intended for swimming and water-contact sports, the Commission will take into consideration the relative proximity of discharges of wastes and will recognize the potential hazards involved in locating swimming areas close to waste discharges. The Commission will not assign this classification to waters, the bacterial quality of which is dependent upon adequate disinfection of waste and where the interruption of such treatment would render the water unsafe for bathing.

Shellfish Growing Areas (1965), published by the Food and Drug Administration, U.S. Department of Health and Human Services and the requirements of the State Department of Public Health. The waters will also be of a quality suitable for the propagation of fish and other aquatic life, including shrimp and crabs.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86° F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5° F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4° F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5° F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i)-(iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.

(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet

or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs; or affect the marketability of fish and shellfish, including shrimp and crabs.

6. Color, taste, and odor-producing substances and other deleterious substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and shellfish, including shrimp and crabs; adversely affect marketability or palatability of fish and shellfish, including shrimp and crabs; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria:

(i) Not to exceed the limits specified in the latest edition of the National Shellfish Sanitation Program Manual of Operations, Sanitation of Shellfish Growing Areas (1965), published by the Food and Drug Administration, U. S. Department of Health and Human Services.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 100/100 ml in coastal waters and 200/100 ml in other waters. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background.

Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(5) FISH AND WILDLIFE

(a) Best usage of waters: fishing, propagation of fish, aquatic life, and wildlife, and any other usage except for swimming and water-contact sports or as a source of water supply for drinking or food-processing purposes.

(b) Conditions related to best usage: the waters will be suitable for fish, aquatic life and wildlife propagation. The quality of salt and estuarine waters to which this classification is assigned will also be suitable for the propagation of shrimp and crabs.

(c) Other usage of waters: it is recognized that the waters may be used for incidental water contact and recreation during June through September, except that water contact is strongly discouraged in the vicinity of discharges or other conditions beyond the control of the Department or the Alabama Department of Public Health.

(d) Conditions related to other usage: the waters, under proper sanitary supervision by the controlling health authorities, will meet accepted standards of water quality for outdoor swimming places and will be considered satisfactory for swimming and other whole body water-contact sports.

(e) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature:

(i) The maximum temperature in streams, lakes, and reservoirs, other than those in river basins listed in subparagraph (ii) hereof, shall not exceed 90° F.

(ii) The maximum temperature in streams, lakes, and reservoirs in the Tennessee and Cahaba River Basins, and for that portion of the Tallapoosa River Basin from the tailrace of Thurlow Dam at Tallassee downstream to the junction of the Coosa and Tallapoosa Rivers which has been designated by the Alabama Department of Conservation and Natural Resources as supporting smallmouth bass, sauger, or walleye, shall not exceed 86° F.

(iii) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 5° F in streams, lakes, and reservoirs in non-coastal and non-estuarine areas.

(iv) The maximum in-stream temperature rise above ambient water temperature due to the addition of artificial heat by a discharger shall not exceed 4° F in coastal or estuarine waters during the period October through May, nor shall the rise exceed 1.5° F during the period June through September.

(v) In lakes and reservoirs there shall be no withdrawal from, nor discharge of heated waters to, the hypolimnion unless it can be shown that such discharge or withdrawal will be beneficial to water quality.

(vi) In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained, and there shall be no thermal block to the migration of aquatic organisms.

(vii) Thermal permit limitations in NPDES permits may be less stringent than those required by subparagraphs (i)-(iv) hereof when a showing by the discharger has been made pursuant to Section 316 of the Federal Water Pollution Control Act (FWPCA), 33 U.S.C. §1251 et seq. or pursuant to a study of an equal or more stringent nature required by the State of Alabama authorized by Title 22, Section 22-22-9(c), Code of Alabama, 1975, that such limitations will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife, in and on the body of water to which the discharge is made. Any such demonstration shall take into account the interaction of the thermal discharge component with other pollutants discharged.

4. Dissolved oxygen:

(i) For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times; except under extreme conditions due to natural causes, it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing hydroelectric generation impoundments. All new hydroelectric generation impoundments, including addition of new hydroelectric generation units to existing impoundments, shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency, in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities.



(ii) In coastal waters, surface dissolved oxygen concentrations shall not be less than 5 mg/l, except where natural phenomena cause the value to be depressed.

(iii) In estuaries and tidal tributaries, dissolved oxygen concentrations shall not be less than 5 mg/l, except in dystrophic waters or where natural conditions cause the value to be depressed.

(iv) In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Toxic substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof.

6. Taste, odor, and color-producing substances attributable to sewage, industrial wastes, or other wastes: only such amounts, whether alone or in combination with other substances, as will not exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; or unreasonably affect the aesthetic value of waters for any use under this classification.

7. Bacteria:

(i) Bacteria of the fecal coliform group shall not exceed a geometric mean of 1,000/100 ml ; nor exceed a maximum of 2,000/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

(ii) For incidental water contact and recreation during June through September, the bacterial quality of water is acceptable when a sanitary survey by the controlling health authorities reveals no source of dangerous pollution and when the geometric mean fecal coliform organism density does not exceed 100/100 ml in coastal waters and 200/100 ml in other waters. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. When the geometric mean fecal coliform organism density exceeds these levels, the bacterial water quality shall be considered acceptable only if a second detailed sanitary survey and evaluation discloses no significant public health risk in the use of the waters. Waters in the immediate vicinity of discharges of sewage or other wastes likely to contain bacteria harmful to humans, regardless of the

degree of treatment afforded these wastes, are not acceptable for swimming or other whole body water-contact sports.

8. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

9. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

(6) LIMITED WARMWATER FISHERY

(a) The provisions of the Fish and Wildlife water use classification at Rule 335-6-10-.09(5) shall apply to the Limited Warmwater Fishery water use classification, except as noted below. Unless alternative criteria for a given parameter are provided in paragraph (c) below, the applicable Fish and Wildlife criteria at paragraph 10-.09(5)(e) shall apply year-round. At the time the Department proposes to assign the Limited Warmwater Fishery classification to a specific waterbody, the Department may apply criteria from other classifications within this chapter if necessary to protect a documented, legitimate existing use.

(b) Best usage of waters (May through November): agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

(c) Conditions related to best usage (May through November):

1. The waters will be suitable for agricultural irrigation, livestock watering, and industrial cooling waters. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. The waters will also be suitable for other uses for which waters of lower quality will be satisfactory.

2. This category includes watercourses in which natural flow is intermittent, or under certain conditions non-existent, and which may receive treated wastes from existing municipalities and industries. In such instances, recognition is given to the lack of opportunity for mixture of the treated wastes with the receiving stream for purposes of compliance. It is also understood in considering waters for this classification that urban runoff or natural conditions may impact any waters so classified.

(d) Other usage of waters: none recognized.

## (e) Specific criteria:

1. Dissolved oxygen (May through November): treated sewage, industrial wastes, or other wastes shall not cause the dissolved oxygen to be less than 3.0 mg/l. In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

2. Toxic substances and taste-, odor-, and color-producing substances attributable to treated sewage, industrial wastes, and other wastes: only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, and industrial process water supply purposes; interfere with downstream water uses; or exhibit acute toxicity or chronic toxicity, as demonstrated by effluent toxicity testing or by application of numeric criteria given in Rule 335-6-10-.07, to fish and aquatic life, including shrimp and crabs in estuarine or salt waters or the propagation thereof. For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 2 years (7Q<sub>2</sub>) shall be the basis for applying the chronic aquatic life criteria. The use of the 7Q<sub>2</sub> low flow for application of chronic criteria is appropriate based on the historical uses and/or flow characteristics of streams to be considered for this classification.

3. Bacteria: bacteria of the fecal coliform group shall not exceed a geometric mean of 1000/100 ml; nor exceed a maximum of 2000/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

## (7) AGRICULTURAL AND INDUSTRIAL WATER SUPPLY

(a) Best usage of waters: agricultural irrigation, livestock watering, industrial cooling and process water supplies, and any other usage, except fishing, bathing, recreational activities, including water-contact sports, or as a source of water supply for drinking or food-processing purposes.

## (b) Conditions related to best usage:

(i) The waters, except for natural impurities which may be present therein, will be suitable for agricultural irrigation, livestock watering, industrial cooling waters, and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. The waters will also be suitable for other uses for which waters of lower quality will be satisfactory.

(ii) This category includes watercourses in which natural flow is intermittent and non-existent during droughts and which may, of necessity, receive treated wastes from existing municipalities and industries, both now

and in the future. In such instances, recognition must be given to the lack of opportunity for mixture of the treated wastes with the receiving stream for purposes of compliance. It is also understood in considering waters for this classification that urban runoff or natural conditions may impact any waters so classified.

(c) Specific criteria:

1. Sewage, industrial wastes, or other wastes: none which are not effectively treated or controlled in accordance with Rule 335-6-10-.08.

2. pH: sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.0, nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH, nor be less than 6.5, nor greater than 8.5.

3. Temperature: the maximum temperature rise above natural temperatures due to the addition of artificial heat shall not exceed 5° F in streams, lakes, and reservoirs, nor shall the maximum water temperature exceed 90° F.

4. Dissolved oxygen: sewage, industrial wastes, or other wastes shall not cause the dissolved oxygen to be less than 3.0 mg/l. In the application of dissolved oxygen criteria referred to above, dissolved oxygen shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, dissolved oxygen criteria will be applied at mid-depth.

5. Color, odor, and taste-producing substances, toxic substances, and other deleterious substances, including chemical compounds attributable to sewage, industrial wastes, and other wastes: only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes, and fish survival, nor interfere with downstream water uses.

6. Bacteria: bacteria of the fecal coliform group shall not exceed a geometric mean of 2000/100 ml; nor exceed a maximum of 4000/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours.

7. Radioactivity: the concentrations of radioactive materials present shall not exceed the requirements of the State Department of Public Health.

8. Turbidity: there shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore,

in no case shall turbidity exceed 50 Nephelometric units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of man-made or man-induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; July 17, 1972; February 26, 1973; May 30, 1977; December 19, 1977; February 4, 1981; March 2, 1990; April 3, 1991; December 30, 1992; September 7, 2000.

### **335-6-10-.10      Special Designations.**

#### (1)                    OUTSTANDING NATIONAL RESOURCE WATER

##### (a)                    Designation:

1.                    High quality waters that constitute an outstanding National resource, such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance, may be considered for designation as an Outstanding National Resource Water (ONRW). For waters designated as ONRW, existing water quality shall be maintained and protected.

##### (b)                    Specific Criteria:

##### 1.                    Sewage, industrial wastes or other wastes:

(i)                    No new point source discharges or expansions of existing point source discharges to Outstanding National Resource Waters shall be allowed.

(ii)                   Existing point source discharges to the Outstanding National Resource Water shall be allowed provided they are treated or controlled in accordance with applicable laws and regulations.

(iii)                   New point source discharges or expansions of existing point source discharges to waters upstream of, or tributary to, Outstanding National Resource Waters shall be regulated in accordance with applicable laws and regulations, including compliance with water quality criteria for the use classification applicable to the particular water. However, no new point source discharge or expansion of an existing point source discharge to waters upstream of, or tributary to, Outstanding National Resource Waters shall be allowed if such discharge would not maintain and protect water quality within the Outstanding National Resource Water.

(iv)                   Nonpoint source discharges shall use best management practices adequate to protect water quality consistent with the Department's nonpoint source control program.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** April 3, 1991

**335-6-10-.11      Water Quality Criteria Applicable to Specific Lakes.**

(1) For certain lakes and reservoirs, waterbody-specific criteria are appropriate to enhance nutrient management. The response to nutrient input may vary significantly lake-to-lake, and for a given lake year-to-year, depending on a number of factors such as rainfall distribution and hydraulic retention time. For this reason, lake nutrient quality targets necessary to maintain and protect existing uses, expressed as chlorophyll *a* criteria, may also vary lake-to-lake. Because the relationship between nutrient input and lake chlorophyll *a* levels is not always well-understood, it may be necessary to revise the criteria as additional water quality data and improved assessment tools become available.

(2) The following lake-specific criteria apply to the waters listed below, in addition to any other applicable criteria commensurate with the designated usage of such waters.

(a) The Chattahoochee River Basin

1. Walter F. George Lake: those waters impounded by Walter F. George Lock and Dam on the Chattahoochee River. The lake has a surface area of 45,181 acres at full power pool, 18,672 acres of which are within Alabama. The Alabama-Georgia state line is represented by the west bank of the original river channel, and the points of measurement for the criteria given below are located in Georgia waters.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20th Edition, 1998): the mean of photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 15 µg/l, as measured at the deepest point, main river channel, dam forebay; or 18 µg/l, as measured at the deepest point, main river channel, approximately 0.25 miles upstream of U.S. Highway 82.

2. West Point Lake: those waters impounded by West Point Dam on the Chattahoochee River. The lake has a surface area of 25,864 acres at full power pool, 2,765 acres of which are within Alabama. The point of measurement for the criterion given below is located in Georgia waters.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20th Edition, 1998): the mean of photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 27 µg/l, as measured at the LaGrange, Georgia Water Intake.

## (b) The Coosa River Basin

1. Weiss Lake: those waters impounded by Weiss Dam on the Coosa River. The lake has a surface area of 30,200 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998*): the mean of photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 20 µg/l, as measured at the deepest point, main river channel, power dam forebay; or 20 µg/l, as measured at the deepest point, main river channel, immediately upstream of causeway (Alabama Highway 9) at Cedar Bluff. If the mean of photic-zone composite chlorophyll *a* samples collected monthly April through October is significantly less than 20 µg/l for a given year, the Department will re-evaluate the chlorophyll *a* criteria, associated nutrient management strategies, and available data and information, and recommend changes, if appropriate, to maintain and protect existing uses.

## (c) The Tallapoosa River Basin

1. Thurlow Lake: those waters impounded by Thurlow Dam on the Tallapoosa River. The reservoir has a surface area of 574 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998*): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Yates Lake: those waters impounded by Yates Dam on the Tallapoosa River. The lake has a surface area of 2,000 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998*): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. Lake Martin: those waters impounded by Martin Dam on the Tallapoosa River. The lake has a surface area of 40,000 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998*): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 5 µg/l, as measured at the deepest point, main river channel, dam forebay; or 5 µg/l, as measured at the deepest point, main river channel, immediately upstream of Blue Creek embayment; or 5 µg/l as measured at the deepest point, main creek channel, immediately upstream of Alabama Highway 63 (Kowaliga) bridge.

4. R.L. Harris Lake: those waters impounded by R.L. Harris Dam on the Tallapoosa River. The lake has a surface area of 10,660 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 10 µg/l, as measured at the deepest point, main river channel, dam forebay; or 12 µg/l, as measured at the deepest point, main river channel, immediately upstream of the Tallapoosa River - Little Tallapoosa River confluence.

(d) The Tennessee River Basin

1. Pickwick Lake: those waters impounded by Pickwick Dam on the Tennessee River. The reservoir has a surface area of 43,100 acres at full pool, 33,700 acres of which are within Alabama. The point of measurement for the criterion given below is located in Tennessee waters.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

2. Wilson Lake: those waters impounded by Wilson Dam on the Tennessee River. The lake has a surface area of 15,930 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

3. Wheeler Lake: those waters impounded by Wheeler Dam on the Tennessee River. The lake has a surface area of 67,100 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

4. Guntersville Lake: those waters impounded by Guntersville Dam on the Tennessee River. The lake has a surface area of 69,700 acres at full pool, 67,900 of which are within Alabama.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of photic-zone composite chlorophyll *a* samples collected monthly April through



September shall not exceed 18 µg/l, as measured at the deepest point, main river channel, dam forebay.

5. Cedar Creek Lake: those waters impounded by Cedar Creek Dam on Cedar Creek. The reservoir has a surface area of 4,200 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 8 ug/l, as measured at the deepest point, main creek channel, dam forebay.

6. Little Bear Creek Lake: those waters impounded by Little Bear Dam on Little Bear Creek. The reservoir has a surface area of 1,600 acres at full pool.

(i) Chlorophyll *a* (corrected, as described in *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition, 1998): the mean of the photic-zone composite chlorophyll *a* samples collected monthly April through October shall not exceed 8 ug/l, as measured at the deepest point, main creek channel, dam forebay.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** January 12, 2001, May 16, 2002.

### **335-6-10-.12      Implementation of the Antidegradation Policy.**

(1) The antidegradation policy at Rule 335-6-10-.04 addresses three categories of waters/uses:

(a) High quality waters that constitute an outstanding national resource (Tier 3);

(b) Waters where the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (Tier 2); and

(c) Existing instream water uses and the level of water quality necessary to protect the existing uses (Tier 1).

(2) Tier 3 waters are those waters designated pursuant to the Outstanding National Resource Water (ONRW) special designation at Rule 335-6-10-.10, and are identified in Rule 335-6-11-.02.

(3) Tier 1 waters are:

335-6-10-.12

(a) Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) identified on the most recent EPA-approved Section 303(d) list;

(b) Those waters (except waters assigned the use classification of Outstanding Alabama Water, which are Tier 2 waters) for which attainment of applicable water quality standards has been, or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls (BPT, BAT, and secondary treatment); and

(c) Those waters assigned the use classification of Limited Warmwater Fishery or Agricultural and Industrial Water Supply (as identified in Rule 335-6-11-.02).

(4) Tier 2 waters are all other waters (those waters not identified as either Tier 3 waters or Tier 1 waters), including all waters assigned the use classification of Outstanding Alabama Water (as identified in Rule 335-6-11-.02).

(5) All new or expanded discharges to Tier 2 waters (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are potentially subject to the provisions of Rule 335-6-10-.04(3). Applicants for such discharges are required to demonstrate that the proposed discharge is necessary for important economic or social development as a part of the permit application process.

(6) After receipt of a permit application for a potentially covered discharge, the Department will determine whether the proposed discharge is to a Tier 2 water, as defined in paragraph (4) above. Of necessity, this determination will be made on a case-by-case basis.

(7) The basic framework of the permitting process is unchanged for a covered discharge to a Tier 2 water. However, the process is enhanced to document the consideration of Tier 2 provisions. The additional documentation includes:

(a) The Department's determination that the application is for a new or expanded discharge;

(b) The Department's determination that the receiving stream is considered to be a Tier 2 water; and

(c) The Department's determination, based on the applicant's demonstration, that the proposed discharge is necessary for important economic or social development in the area in which the waters are located.

(8) All three items will be documented in the permit file and/or fact sheet, and will be used by the Department in its decision process. The

public notice process will be used to announce a preliminary Department decision to deny or to allow a covered discharge to a Tier 2 water, while the final determination will be made concurrently with the final Department decision regarding the permit application for a covered discharge.

(9) Documentation by the applicant shall include:

(a) An evaluation of discharge alternatives completed by a Registered Professional Engineer licensed to practice in the State of Alabama.

1. The applicant shall document the discharge alternatives evaluation by completing and submitting the following forms, or by submitting the same information in another format acceptable to the Department:

(i) ADEM Form 311, Alternatives Analysis; and, as applicable,

(ii) ADEM Form 312, Calculation of Total Annualized Costs for Public-Sector Projects, or ADEM Form 313, Calculation of Total Annualized Costs for Private-Sector Projects. Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

(b) A demonstration that the proposed discharge will support important economic or social development in the area in which the waters are located, documented by the applicant's response, in writing, to the following questions. The applicant shall provide supporting information for each response.

1. What environmental or public health problem will the discharger be correcting?

2. How much will the discharger be increasing employment (at its existing facility or as the result of locating a new facility)?

3. How much reduction in employment will the discharger be avoiding?

4. How much additional state or local taxes will the discharger be paying?

5. What public service to the community will the discharger be providing?

6. What economic or social benefit will the discharger be providing to the community?

(10) The following forms are embodied in this rule:

335-6-10-.12

- (a) ADEM Form 311 Alternatives Analysis
- (b) ADEM Form 312 Calculation of Total Annualized Costs  
for Public-Sector Projects
- (c) ADEM Form 313 Calculation of Total Annualized Costs  
for Private-Sector Projects

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6,  
22-22A-8.

**History:** August 1, 2002.

## *Alternatives Analysis*

*Applicant/Project:* \_\_\_\_\_

All new or expanded discharges (except discharges eligible for coverage under general permits) covered by the NPDES permitting program are subject to the provisions of the antidegradation policy. Applicants for such discharges to Tier 2 waters are required to demonstrate " . . . that the proposed discharge is necessary for important economic or social development." As a part of this demonstration, the applicant must complete an evaluation of the discharge alternatives listed below, to include calculation of total annualized project costs for each technically feasible alternative (using ADEM Form 312 for public-sector projects and ADEM Form 313 for private-sector projects). Alternatives with total annualized project costs that are less than 110% of the total annualized project costs for the Tier 2 discharge proposal are considered viable alternatives.

Alternative	Viable	Non-Viable	Comment
1 Land Application			
2 Pretreatment/Discharge to POTW			
3 Relocation of Discharge			
4 Reuse/Recycle			
5 Process/Treatment Alternatives			
6 On-site/Sub-surface Disposal			
(other project-specific alternatives identified by the applicant or the Department; attach additional sheets if necessary)			
7			
8			
9			

Pursuant to ADEM Administrative Code Rule 335-6-3-.04, I certify on behalf of the applicant that I have completed an evaluation of the discharge alternatives identified above, and reached the conclusions indicated.

Signature: \_\_\_\_\_  
(Professional Engineer)

Date: \_\_\_\_\_

(Supporting documentation to be attached, referenced, or otherwise handled as appropriate.)

**Calculation of Total Annualized Project Costs  
for Public-Sector Projects**

**A. Capital Costs**

Capital Cost of Project \$ \_\_\_\_\_

Other One-Time Costs of Project (Please List, if any):

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

**Total Capital Costs (Sum column)** \$ \_\_\_\_\_ (1)

Portion of Capital Costs to be Paid for with Grant Monies \$ \_\_\_\_\_ (2)

Capital Costs to be Financed [Calculate: (1) - (2) ] \$ \_\_\_\_\_ (3)

Type of Financing (e.g., G.O. bond, revenue bond, bank loan) \_\_\_\_\_

Interest Rate for Financing (expressed as decimal) \_\_\_\_\_ (i)

Time Period of Financing (in years) \_\_\_\_\_ (n)

Annualization Factor =  $\frac{i}{(1+i)^n - 1} + i$  \_\_\_\_\_ (4)

**Annualized Capital Cost** [Calculate: (3) x (4) ] \_\_\_\_\_ (5)

**B. Operating and Maintenance Costs**

Annual Costs of Operation and Maintenance (including but not limited to: monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement.) (Please list below.)

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ \$ \_\_\_\_\_

**Total Annual O & M Costs (Sum column)** \$ \_\_\_\_\_ (6)

**C. Total Annual Cost of Pollution Control Project**

Total Annual Cost of Pollution Control Project [ (5) + (6) ]

\$ _____ (7)
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**Calculation of Total Annualized Project Costs  
for Private-Sector Projects**

Capital Costs to be Financed (Supplied by applicant) \$ \_\_\_\_\_ (1)

Interest rate for Financing (Expressed as a decimal) \_\_\_\_\_ (i)

Time Period of Financing (Assume 10 years\*) 10 years (n)

Annualization Factor =  $\frac{i}{(1+i)^{10} - 1} + i$  \_\_\_\_\_ (2)

Annualized Capital Cost [Calculate: (1) x (2)] \$ \_\_\_\_\_ (3)

Annual Cost of Operation and Maintenance  
(including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)\*\* \$ \_\_\_\_\_ (4)

**Total Annual Cost of Pollution Control Project [ (3) + (4) ]** \$ \_\_\_\_\_ (5)

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

TABLE 1  
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)			Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish of Fish Only
Acenaphthene					Eq. 16
Acrolein					Eq. 16
Acrylonitrile *					Eq. 18
Aldrin *	3.0		1.3		Eq. 18
Anthracene					Eq. 16
Antimony					Eq. 16
Arsenic *		190 (tri)	69 (tri)	36 (tri)	Eq. 18
Asbestos	360 (tri)				7,000,000 fibers/l(MCL)
Benzene *					Eq. 18
Benzidine *					Eq. 18
Benzo(a)anthracene *					Eq. 18
Benzo(a)pyrene *					Eq. 18
Benzo(b)fluoranthene *					Eq. 18
Benzo(k)fluoranthene *					Eq. 18
Bis(2-chloroethyl)ether *					Eq. 18
Bis(2-chloroisopropyl)ether					Eq. 16
Bis(2-ethylhexyl)phthalate *					Eq. 18
Bromoform *					Eq. 18
Butylbenzyl phthalate					Eq. 16
Cadmium	Eq. 1	Eq. 2	43	9.3	Eq. 19
Carbon tetrachloride *					Eq. 19
Chlordane *	2.4	0.0043	0.09	0.004	Eq. 18
Chlorobenzene					Eq. 16
Chlorodibromomethane *					Eq. 18
Chloroform *					Eq. 18
2-Chloronaphthalene					Eq. 16
2-Chlorophenol					Eq. 16
Chromium (trivalent)	Eq. 3	Eq. 4			Eq. 17



\* TABLE 1  
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
Chromium (hexavalent)	16	11	1100	50		
Chrysene *					Eq. 18	Eq. 19
Copper	Eq. 5	Eq. 6	2.9	2.9	1300(MCL)	
Cyanide	22	5.2	1.0	1.0	Eq. 16	Eq. 17
4,4'-DDD *					Eq. 18	Eq. 19
4,4'-DDE *					Eq. 18	Eq. 19
4,4'-DDT *					Eq. 18	Eq. 19
Dibenzo(a,h)anthracene *	1.1	0.001	0.13	0.001	Eq. 18	Eq. 19
1,2-Dichlorobenzene					Eq. 16	Eq. 17
1,3-Dichlorobenzene					Eq. 16	Eq. 17
1,4-Dichlorobenzene					Eq. 16	Eq. 17
3,3'-Dichlorobenzidine *					Eq. 18	Eq. 19
Dichlorobromomethane *					Eq. 18	Eq. 19
1,2-Dichloroethane *					Eq. 18	Eq. 19
1,1-Dichloroethylene *					Eq. 18	Eq. 19
2,4-Dichlorophenol					Eq. 16	Eq. 17
1,2 Dichloropropane					Eq. 16	Eq. 17
1,3 Dichloropropylene					Eq. 16	Eq. 17
Dieldrin *	2.5	0.0019	0.71	0.0019	Eq. 18	Eq. 19
2,4-Dimethylphenol					Eq. 16	Eq. 17
Diethyl phthalate					Eq. 16	Eq. 17
Dimethyl phthalate					Eq. 16	Eq. 17
Di-n-butyl phthalate					Eq. 16	Eq. 17
4,6-Dinitro-2-methylphenol					Eq. 16	Eq. 17
2,4 Dinitrotoluene *					Eq. 18	Eq. 19
2,4-Dinitrophenol					Eq. 16	Eq. 17
Dioxin (2,3,7,8-TCDD) *					Eq. 18	Eq. 19
1,2-Diphenylhydrazine *					Eq. 18	Eq. 19

TABLE 1  
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)			Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish of Fish Only
Endosulfan (alpha)	0.22	0.056	0.034	0.0087	Eq. 16
Endosulfan (beta)	0.22	0.056	0.034	0.0087	Eq. 16
Endosulfan sulfate					Eq. 16
Endrin	0.18	0.0023	0.037	0.0023	Eq. 16
Endrin aldehyde					Eq. 16
Ethylbenzene					Eq. 16
Fluoranthene					Eq. 16
Fluorene					Eq. 16
Heptachlor *	0.52	0.0038	0.053	0.0036	Eq. 18
Heptachlor epoxide *	0.52	0.0038	0.053	0.0036	Eq. 18
Hexachlorobenzene *					Eq. 18
Hexachlorobutadiene *					Eq. 18
Hexachlorocyclohexane (alpha) *					Eq. 18
Hexachlorocyclohexane (beta) *					Eq. 18
Hexachlorocyclohexane (gamma) *	2.0	0.08	0.16		Eq. 18
Hexachlorocyclopentadiene					Eq. 16
Hexachloroethane *					Eq. 18
Indeno (1,2,3-cd) pyrene *					Eq. 18
Isophorone *					Eq. 18
Lead	Eq. 7	Eq. 8	220	8.5	Eq. 17
Mercury	2.4	0.012	2.1	0.025	Eq. 16
Methyl bromide					Eq. 16
Methylene chloride *					Eq. 18
Nickel	Eq. 9	Eq. 10	75	8.3	Eq. 16
Nitrobenzene					Eq. 16
N-Nitrosodimethylamine *					Eq. 18
N-Nitrosodi-n-propylamine *					Eq. 18
N-Nitrosodiphenylamine *					Eq. 18

TABLE 1  
TOXIC POLLUTANT CRITERIA

Pollutant	Aquatic Life Criteria (in µg/l unless otherwise noted)				Human Health Criteria (in µg/l unless otherwise noted)	
	Freshwater Acute	Freshwater Chronic	Marine Acute	Marine Chronic	Consumption of Water and Fish	Consumption of Fish Only
PCB-1016 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1221 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1232 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1242 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1248 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1254 *		0.014		0.03	Eq. 18	Eq. 19
PCB-1260 *		0.014		0.03	Eq. 18	Eq. 19
Pentachlorophenol *	Eq. 11	Eq. 12	13	7.9	Eq. 18	Eq. 19
Phenol					Eq. 16	Eq. 17
Pyrene					Eq. 16	Eq. 17
Selenium	20	5.0	300	71		
Silver	Eq. 13		2.3			
1,1,2,2-Tetrachloroethane *					Eq. 18	Eq. 19
Tetrachloroethylene *					Eq. 18	Eq. 19
Thallium					Eq. 16	Eq. 17
Toluene					Eq. 16	Eq. 17
Toxaphene *	0.73	0.0002	0.21	0.0002	Eq. 18	Eq. 19
1,2-Trans-dichloroethylene					Eq. 16	Eq. 17
1,1,2-Trichloroethane *					Eq. 18	Eq. 19
Trichloroethylene *					Eq. 18	Eq. 19
2,4,6-Trichlorophenol *					Eq. 18	Eq. 19
Vinyl chloride *					Eq. 18	Eq. 19
Zinc	Eq. 14	Eq. 15	95	86		

POLLUTANT	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIOCONCENTRATION FACTOR l/kg
Acrylonitrile		0.54	30
Aldrin		17	4670
Anthracene	0.3		30
Antimony	0.0004		1
Arsenic		1.75	44
Benzene		0.029	5.2
Benzidine		230	87.5
Benzo(a)anthracene		11.53	30
Benzo(a)pyrene		11.53	30
Benzo(b)fluoranthene		11.53	30
Benzo(k)fluoranthene		11.53	30
Bis(2-chloroethyl)ether		1.1	6.9
Bis(2-chloroisopropyl)ether	0.04		2.47
Bis(2-ethylhexyl)phthalate		0.014	130
Bromoform		0.0079	3.75
Butylbenzyl phthalate	0.2		414
Carbon tetrachloride		0.13	18.75
Chlordane		1.3	14100
Chlorobenzene	0.02		10.3
Chlorodibromomethane		0.084	3.75
Chloroform		0.0061	3.75
2-Chloronaphthalene	0.08		202
2-Chlorophenol	0.005		134
Chrysene		11.53	30
Cyanide	0.02		1
4,4'-DDD		0.24	53600
4,4'-DDE		0.34	53600
4,4'-DDT		0.34	53600
Dibenzo(a,h)anthracene		11.53	30
1,2-Dichlorobenzene	0.09		55.6
1,3-Dichlorobenzene	0.0134		55.6
1,4-Dichlorobenzene	0.0134		55.6
3,3'-Dichlorobenzidene		0.45	312
Dichlorobromomethane		0.13	3.75
1,2-Dichloroethane		0.091	1.2
1,1-Dichloroethylene		0.6	5.6
2,4-Dichlorophenol	0.003		40.7
1,2-Dichloropropane	0.000015		4.11
1,3-Dichloropropylene	0.0003		1.9
Dieldrin		16	4670
Diethyl phthalate	0.8		73
2,4 Dimethylphenol	0.02		93.8
Dimethyl phthalate	10		36
Di-n-butyl phthalate	0.1		89
4,6-Dinitro-2-methylphenol	0.00039		5.5

POLLUTANT	REFERENCE DOSE mg/(kg-day)	CANCER POTENCY FACTOR (kg-day)/mg	BIOCONCENTRATION FACTOR l/kg
2,4-Dinitrophenol	0.002		1.5
2,4 Dinitrotoluene		0.31	3.8
Dioxin (2,3,7,8-TCDD)		17500	5000
1,2-Diphenylhydrazine		0.8	24.9
Endosulfan (alpha)	0.00005		270
Endosulfan (beta)	0.00005		270
Endosulfan sulfate	0.00005		270
Endrin	0.0003		3970
Endrin aldehyde	0.0003		3970
Ethylbenzene	0.1		37.5
Fluoranthene	0.04		1150
Fluorene	0.04		30
Heptachlor		4.5	11200
Heptachlor epoxide		9.1	11200
Hexachlorobenzene		1.688	8690
Hexachlorobutadiene		0.078	2.78
Hexachlorocyclohexane (alpha)		6.3	130
Hexachlorocyclohexane (beta)		1.8	130
Hexachlorocyclohexane (gamma)		1.326	130
Hexachlorocyclopentadiene	0.007		4.34
Hexachloroethane		0.014	86.9
Indeno (1,2,3-cd) pyrene		11.53	30
Isophorone		0.0041	4.38
Mercury	0.000286		5500
Methyl bromide	0.0014		3.75
Methylene chloride		0.0075	0.9
Nickel	0.02		47
Nitrobenzene	0.0005		2.89
N-Nitrosodimethylamine		51	0.026
N-Nitrosodi-n-propylamine		7	1.13
N-Nitrosodiphenylamine		0.0049	136
PCB-1016		7.7	31200
PCB-1221		7.7	31200
PCB-1232		7.7	31200
PCB-1242		7.7	31200
PCB-1248		7.7	31200
PCB-1254		7.7	31200
PCB-1260		7.7	31200
Pentachlorophenol		0.12	11
Phenol	0.6		1.4
Pyrene	0.03		30
1,1,2,2-Tetrachloroethane		0.2	5
Tetrachloroethylene		0.039776	30.6
Thallium	0.000068		119
Toluene	0.2		10.7
Toxaphene		1.1	13100
1,2-Trans-dichloroethylene	0.02		1.58

POLLUTANT	REFERENCE	CANCER POTENCY	BIOCONCENTRATION
	DOSE mg/(kg-day)	FACTOR (kg-day)/mg	FACTOR l/kg
1,1,2-Trichloroethane		0.057	4.5
Trichloroethylene		0.0126	10.6
2,4,6-Trichlorophenol		0.011	150
Vinyl chloride		0.0174	1.17

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**Water Division - Water Quality Program**

**Chapter 335-6-11**  
**Water Use Classifications For Interstate and Intrastate Waters**

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<b>335-6-11-.01</b>	<b><u>The Use Classification System</u></b>
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(1) Use classifications utilized by the State of Alabama are as follows:

Outstanding Alabama Water	OAW
Public Water Supply	PWS
Swimming and Other Whole Body Water-Contact Sports	S
Shellfish Harvesting	SH
Fish and Wildlife	F&W
Limited Warmwater Fishery	LWF
Agricultural and Industrial Water Supply	A&I

(2) Use classifications apply water quality criteria adopted for particular uses based on existing utilization, uses reasonably expected in the future, and those uses not now possible because of correctable pollution but which could be made if the effects of pollution were controlled or eliminated. Of necessity, the assignment of use classifications must take into consideration the physical capability of waters to meet certain uses.

(3) Those use classifications presently included in the standards are reviewed informally by the Department's staff as the need arises, and the entire standards package, to include the use classifications, receives a formal review at least once each three years. Efforts currently underway through local 201 planning projects will provide additional technical data on certain streams in the State, information on treatment alternatives, and applicability of various management techniques, which, when available, will hopefully lead to new decisions regarding use classifications. Of particular interest are those segments which are currently classified for any usage which has an associated degree of quality criteria considered to be less than that applicable to a classification of "Fish and Wildlife." As rapidly as it can be demonstrated that new classifications are feasible on these segments from an economic and technological viewpoint, based on the information being generated pursuant to staff studies and the planning efforts previously outlined, such improvement will be sought.

(4) Although it is not explicitly stated in the classifications, it should be understood that the use classification of "Shellfish Harvesting" is only applicable in the coastal area and, therefore, is included only in the Mobile River Basin and the Perdido-Escambia River Basin. It should also be noted that with the exception of those segments in the "Public Water Supply" classification, every segment, in addition to being considered acceptable for its designated use, is also considered acceptable for any other use with a less stringent associated criteria.

(5) Not all waters are included by name in the use classifications since it would be a tremendous administrative burden to list all stream segments in the State. In addition, in virtually every instance where a segment is not included by name, the Department has no information or stream data upon which to base a decision relative to the assignment of a particular classification. An effort has been made, however, to include all major stream segments and all segments which, to the Department's knowledge, are currently recipients of point source discharges. Those segments which are not included by name will be considered to be acceptable for a "Fish and Wildlife" classification unless it can be demonstrated that such a generalization is inappropriate in specific instances.

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** May 5, 1967. **Amended:** June 19, 1967; April 1, 1970; October 16, 1972; September 17, 1973; May 30, 1977; December 19, 1977; February 4, 1981; April 5, 1982; December 11, 1985; March 26, 1986; September 7, 2000.



335-6-11-.02

Use Classifications

(1)

## THE ALABAMA RIVER BASIN

INTERSTATE WATERS

Stream	From	To	Classification
ALABAMA RIVER	MOBILE RIVER	Claiborne Lock and Dam	F&W
ALABAMA RIVER	Claiborne Lock and Dam	Frisco <b>Railroad</b> Crossing	S/F&W
ALABAMA RIVER	Frisco Railroad Crossing	River Mile 131	F&W
ALABAMA RIVER	River Mile 131	Millers Ferry Lock and Dam	PWS
ALABAMA RIVER	Millers Ferry Lock and Dam	Blackwell Bend (Six Mile Creek)	S/F&W
ALABAMA RIVER	Blackwell Bend (Six Mile Creek)	Jones Bluff Lock and Dam	F&W
ALABAMA RIVER	Jones Bluff Lock and Dam	Pintlalla Creek	S/F&W
ALABAMA RIVER	Pintlalla Creek	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Little River	ALABAMA RIVER	Its source	S/F&W
Randons Creek	ALABAMA RIVER	Its source	F&W
Bear Creek	Randons Creek	Its source	F&W
Limestone Creek	ALABAMA RIVER	Its source	F&W
Double Bridges Creek	Limestone Creek	Its source	F&W
Hudson Branch	Limestone Creek	Its source	F&W
Big Flat Creek	ALABAMA RIVER	Its source	S/F&W
Pursley Creek	ALABAMA RIVER	Its source	F&W

Stream	From	To	Classification
Unnamed tributary south of Camden	Pursley Creek	Its source	F&W
Beaver Creek	ALABAMA RIVER	Its source	F&W
Cub Creek	Beaver Creek	Its source	F&W
Turkey Creek	Beaver Creek	Its source	F&W
Rockwest Creek	ALABAMA RIVER	Its source	F&W
Unnamed tributary west of Camden	Rockwest Creek	Its source	F&W
Pine Barren Creek	ALABAMA RIVER	Its source	S/F&W
Chilatchee Creek	ALABAMA RIVER	Its source	S/F&W
Bogue Chitto Creek	ALABAMA RIVER	Its source	F&W
Sand Creek	Bogue Chitto Creek	Its source	F&W
Big Cedar Creek	ALABAMA RIVER	Its source	S/F&W
Valley Creek	ALABAMA RIVER	Selma-Summerfield Rd.	F&W
Valley Creek	Selma-Summerfield Rd.	Its source	S/F&W
Mulberry Creek	ALABAMA RIVER	Plantersville	S/F&W
Mulberry Creek	Plantersville	Its source	F&W
Gale Creek	Mulberry Creek	Its source	F&W
Charlotte Creek	Gale Creek	Its source	F&W
Big Swamp Creek	ALABAMA RIVER	Its source	S/F&W
Swift Creek	ALABAMA RIVER	Its source	S/F&W
Pintlalla Creek	ALABAMA RIVER	Its source	S/F&W
Autauga Creek	ALABAMA RIVER	Western boundary of Prattville	F&W
Autauga Creek	Western boundary of Prattville	Its source	S/F&W

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Catoma Creek	ALABAMA RIVER	Its source	F&W
Mortar Creek	ALABAMA RIVER	Its source	F&W
Valley Creek Lake	Within Valley Creek State Park		S/F&W
Little River Lake	Within Valley Creek State Park		S/F&W

## (2) THE CAHABA RIVER BASIN

INTRASTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
CAHABA RIVER	ALABAMA RIVER	Junction of lower Little Cahaba River	OAW/S
CAHABA RIVER	Junction of lower Little Cahaba River	Shelby County Road 52	OAW/F&W
CAHABA RIVER	Shelby County Road 52	Dam near U.S. Highway 280	F&W
CAHABA RIVER	Dam near U.S. Highway 280	Grant's Mill Road	OAW/PWS
CAHABA RIVER	Grant's Mill Road	U.S. Highway 11	F&W
CAHABA RIVER	U.S. Highway 11	Its source	OAW/F&W
Childers Creek	CAHABA RIVER	Its source	F&W
Oakmulgee Creek	CAHABA RIVER	Its source	S
Little Oakmulgee Creek	Oakmulgee Creek	Its source	S
Rice Creek	CAHABA RIVER	Its source	F&W
Waters Creek	CAHABA RIVER	Its source	S
Old Town Creek	CAHABA RIVER	Its source	S
Blue Outtee Creek	CAHABA RIVER	Its source	S
Affonee Creek	CAHABA RIVER	Its source	S
Haysop Creek	CAHABA RIVER	Its source	F&W
Schultz Creek	CAHABA RIVER	Its source	S
Little Cahaba River (Bibb County)	CAHABA RIVER	Its source (junction of Mahan and Shoal Creeks)	OAW/F&W
Sixmile Creek	Little Cahaba River	Its source	S
Mahan Creek	Little Cahaba River	Its source	F&W

Stream	From	To	Classification
Shoal Creek	Little Cahaba River	Its source	F&W
Caffee Creek	CAHABA RIVER	Its source	F&W
Shades Creek	CAHABA RIVER	Its source	F&W
Buck Creek	CAHABA RIVER	Cahaba Valley Creek	F&W
Buck Creek	Cahaba Valley Creek	Shelby County Road 44	LWF <sup>4</sup>
Buck Creek	Shelby County Road 44	Its source	F&W
Cahaba Valley Creek	Buck Creek	Its source	F&W
Peavine Creek	Buck Creek	Its source	F&W
Oak Mountain State Park Lakes			PWS
Patton Creek	CAHABA RIVER	Its source	F&W
Little Shades Creek	CAHABA RIVER	Its source	F&W
Little Cahaba River (Jefferson-Shelby Counties)	CAHABA RIVER	Head of Lake Purdy	PWS
Little Cahaba River (Jefferson County)	Head of Lake Purdy	Its source	F&W

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<sup>4</sup>Applicable dissolved oxygen level is 4.0 mg/l during May through November. Fish and Wildlife fecal coliform bacteria criteria at paragraph 10-.09(5)(e)7. are applicable year-round. For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years (7Q<sub>10</sub>) shall be the basis for applying the chronic aquatic life criteria.

## (3) THE CHATTAHOOCHEE RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
CHATTAHOOCHEE RIVER	Alabama-Florida state line	Water supply intake of Great Southern Division, Great Northern Paper Co.	F&W
CHATTAHOOCHEE RIVER	Water supply intake of Great Southern Division, Great Northern Paper Co.	Cowikee Creek	S/F&W
CHATTAHOOCHEE RIVER	Cowikee Creek	14th Street Bridge between Columbus and Phenix City	F&W
CHATTAHOOCHEE RIVER	14th Street Bridge between Columbus and Phenix City	Osanippa Creek	PWS/S/F&W
CHATTAHOOCHEE RIVER	Osanippa Creek	West Point Manufacturing Company water supply intake at Lanett	F&W
CHATTAHOOCHEE RIVER	West Point Manufacturing Company water supply intake at Lanett	West Point Dam	PWS
CHATTAHOOCHEE RIVER (West Point Lake)	West Point Dam	West Point Lake limits in Alabama	S/F&W
Osligee Creek	Alabama-Georgia state line	Its source	F&W
Wehadkee Creek	Alabama-Georgia state line	Its source	F&W
Finley Creek	Alabama-Georgia State line	Its source	F&W
Hardley Creek	Alabama-Georgia State line	Its source	F&W

Stream	From	To	Classification
Veasey Creek	Alabama-Georgia State line	Its source	F&W

INTRASTATE WATERS

Stream	From	To	Classification
Omusee Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Mill Creek	Omusee Creek	Its source	F&W
Abbie Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Skippers Creek	Abbie Creek	Its source	F&W
Owens Branch	Abbie Creek	Its source	F&W
Cheneyhatchee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Barbour Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Chewalla Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Cowikee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
North Fork of Cowikee Creek	Cowikee Creek	Its source	F&W
Middle Fork of Cowikee Creek	North Fork of Cowikee Creek	Its source	S/F&W
Hurtsboro Creek	North Fork of Cowikee Creek	Its source	A&I
South Fork of Cowikee Creek	Cowikee Creek	Its source	S/F&W
Hatchechubbee Creek	CHATTAHOOCHEE RIVER	Russell County Highway 4, west of Pittsview	S/F&W
Hatchechubbee Creek	Russell County Highway 4, west of Pittsview	Its source	F&W

Stream	From	To	Classification
Ihagee Creek	CHATTAHOOCHEE RIVER	Its source	S/F&W
Uchee Creek	CHATTAHOOCHEE RIVER	County Road 39	S/F&W
Uchee Creek	County Road 39	Alabama Highway 169	PWS/S/F&W
Uchee Creek	Alabama Highway 169	Its source	S/F&W
Halawakee Creek	CHATTAHOOCHEE RIVER	Three miles upstream of County Road 79	PWS/F&W
Halawakee Creek	Three miles upstream Of County Road 79	Its source	F&W
Osanippa Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Kellum Hill Creek	Osligee Creek	Its source	F&W
Allen Creek	Kellum Hill Creek	Its source	F&W
Moore's Creek	CHATTAHOOCHEE RIVER	Its source	F&W
Guss Creek	Wehadkee Creek	Its source	F&W
Gladney Mill Branch	Guss Creek	Its source	F&W



## (4) THE CHIPOLA RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Big Creek	Alabama-Florida state line	Its source	F&W
Buck Creek	Alabama-Florida state line	Its source	F&W
Cowarts Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Limestone Creek	Big Creek	Its source	F&W
Cypress Creek	Limestone Creek	Its source	F&W
Rocky Creek	Cowarts Creek	Its source	F&W

## (5) THE CHOCTAWHATCHEE RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Pea River	CHOCTAWHATCHEE RIVER	Its source	F&W
CHOCTAWHATCHEE RIVER	Alabama-Florida state line	Its source	F&W
Wright Creek	Alabama-Florida state line	Its source	F&W
Holmes Creek	Alabama-Florida state line	Its source	F&W
Ten Mile Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Sandy Creek	Pea River	Samson	F&W
Flat Creek	Pea River	Junction with Eightmile Creek	F&W
Flat Creek	Junction with Eightmile Creek	Its source	S/F&W
Eightmile Creek	Flat Creek	Its source	F&W
Corner Creek	Eightmile Creek	Its source	F&W
Cripple Creek	Pea River	Its source	F&W
Samson Branch	Pea River	Its source	F&W
Whitewater Creek	Pea River	Its source	F&W
Big Creek	Whitewater Creek	Its source	F&W
Walnut Creek	Whitewater Creek	Its source	F&W
Mims Creek	Whitewater Creek	Its source	F&W
Pea Creek	Pea River	Its source	F&W

Stream	From	To	Classification
Double Bridges Creek	CHOCTAWHATCHEE RIVER	Its source	F&W
Blanket Creek	Double Bridges Creek	Its source	F&W
Claybank Creek	CHOCTAWHATCHEE RIVER	Lake Tholocco	F&W
Lake Tholocco	Dam	Its source	S/F&W
Claybank Creek	Lake Tholocco	Its source	F&W
Harrand Creek	Claybank Creek	Its source	F&W
Tributary of Harrand Creek	Harrand Creek	Its source	F&W
Hurricane Creek	CHOCTAWHATCHEE RIVER	Its source	F&W
Mill Creek	Hurricane Creek	Hartford	F&W
Little Choctawhatchee River	CHOCTAWHATCHEE RIVER	Its source	F&W
Newton Creek	Little Choctawhatchee River	Its source	F&W
Beaver Creek	Newton Creek	Its source	F&W
Hurricane Creek (Dale County)	CHOCTAWHATCHEE RIVER	Its source	F&W
West Fork of Choctawhatchee River	CHOCTAWHATCHEE RIVER	Its source	F&W
Judy Creek	West Fork of Choctawhatchee River	Its source	F&W
Little Judy Creek	Judy Creek	Its source	F&W
Lindsey Creek	West Fork of Choctawhatchee River	Its source	F&W

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
East Fork of Choctawhatchee River	CHOCTAWHATCHEE RIVER	Blackwood Creek	F&W
East Fork of Choctawhatchee River	Blackwood Creek	Its source	S/F&W
Blackwood Creek	East Fork of Choctawhatchee River	Its source	F&W

## (6) THE COOSA RIVER BASIN

INTERSTATE WATERS

Stream	From	To	Classification
COOSA RIVER	Its junction with the TALLAPOOSA RIVER	Jordan Dam	F&W
COOSA RIVER (Lake Jordan)	Jordan Dam	Mitchell Dam	S/F&W
COOSA RIVER (Lake Jordan)	Bouldin Dam	Alabama Highway 111	PWS/S/F&W
COOSA RIVER (Lake Mitchell)	Mitchell Dam	Lay Dam	PWS/S/F&W
COOSA RIVER (Lay Lake)	Lay Dam	Southern RR Bridge (1-1/3 miles above Yellowleaf Creek)	PWS/S/F&W
COOSA RIVER (Lay Lake)	Southern RR Bridge (1-1/3 miles above Yellowleaf Creek)	River Mile 89 (1-1/2 miles above Talladega Creek)	S/F&W <sup>1</sup>
COOSA RIVER (Lay Lake)	River Mile 89 (1-1/2 miles above Talladega Creek)	Logan Martin Dam	PWS/S/F&W
COOSA RIVER (Logan Martin Lake) (Lake Henry)	Logan Martin Dam	McCardney's Ferry (3 miles upstream of Big Canoe Creek)	S/F&W
COOSA RIVER (Lake Henry)	McCardney's Ferry (3 miles upstream of Big Canoe Creek)	City of Gadsden's water supply intake	F&W
COOSA RIVER (Lake Henry)	City of Gadsden's water supply intake	Weiss Dam powerhouse	PWS/F&W
COOSA RIVER	Weiss Dam powerhouse	Weiss Dam	F&W
COOSA RIVER (Weiss Lake)	Weiss Dam and Weiss Dam powerhouse	Spring Creek	PWS/S/F&W

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<sup>1</sup>Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
COOSA RIVER (Weiss Lake)	Spring Creek	Alabama-Georgia state line	S/F&W
Bouldin Tailrace Canal (Callaway Creek)	COOSA RIVER	Bouldin Dam	F&W
Terrapin Creek	COOSA RIVER	U.S. Highway 278	F&W
Terrapin Creek	U.S. Highway 278	Calhoun County Road 70, east of Vigo	PWS/F&W
Terrapin Creek	Calhoun County Road 70, east of Vigo	Alabama-Georgia state line	F&W
Little River and tributaries	COOSA RIVER (Weiss Lake)	Junction of East Fork of Little River and West Fork of Little River	PWS/S/ F&W <sup>3</sup>
East Fork of Little River and tributaries	Little River	Alabama-Georgia state line	PWS/S/ F&W <sup>3</sup>
West Fork of Little River and tributaries	Little River	Alabama-Georgia state line	PWS/S/ F&W <sup>3</sup>
Chattooga River	COOSA RIVER (Weiss Lake)	Gaylesville	S/F&W
Chattooga River	Gaylesville	Alabama-Georgia state line	F&W
Spring Creek	COOSA RIVER (Weiss Lake)	Alabama-Georgia state line	F&W

#### INTRASTATE WATERS

Stream	From	To	Classification
Weoka Creek	COOSA RIVER (Lake Jordan)	Its source	S/F&W
Chestnut Creek	COOSA RIVER (Lake Jordan)	Its source	F&W

<sup>3</sup>The special designation of Outstanding National Resource Water applies to this segment.

Stream	From	To	Classification
Hatchet Creek	COOSA RIVER (Lake Mitchell)	Norfolk Southern Railway	OAW/S/F&W
Hatchet Creek	Norfolk Southern Railway	Junction of East Fork Hatchet Creek and West Fork Hatchet Creek	OAW/PWS/ S/F&W
East Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W
West Fork Hatchet Creek	Hatchet Creek	Its source	OAW/F&W
Socapatoy Creek	Hatchet Creek	Its source	F&W
Weogufka Creek	Hatchet Creek (Lake Mitchell)	Its source	S/F&W
Walnut Creek	COOSA RIVER (Lake Mitchell)	Its source	F&W
Waxahatchee Creek	COOSA RIVER (Lay Lake)	Its source	F&W
Tributary of Waxahatchee Creek	Waxahatchee Creek	Its source	F&W
Buxahatchee Creek	Waxahatchee Creek (Lay Lake)	Its source	F&W
Yellowleaf Creek	COOSA RIVER (Lay Lake)	Its source	S/F&W
Tallassee hatchee Creek	COOSA RIVER (Lay Lake)	City of Sylacauga's water supply reservoir dam	F&W
Tallassee hatchee Creek	City of Sylacauga's water supply reservoir dam	Its source	PWS/F&W

Stream	From	To	Classification
Shirtee Creek	Tallassee hatchee Creek	Its source	F&W
Talladega Creek	COOSA RIVER (Lay Lake)	County Road 303	F&W
Talladega Creek	County Road 303	Alabama Highway 77	PWS/F&W
Talladega Creek	Alabama Highway 77	Its source	F&W
Mump Creek	Talladega Creek	City of Talladega's water supply reservoir dam	F&W
Mump Creek	City of Talladega's water supply reservoir dam	Its source	PWS/F&W
Kelly Creek	COOSA RIVER (Lay Lake)	Its source	S/F&W
Wolf Creek	Kelly Creek	Its source	F&W
Choccolocco Creek	COOSA RIVER (Logan Martin Lake)	Its source	F&W
Eastaboga Creek	Choccolocco Creek	Its source	F&W
Cheaha Creek	Choccolocco Creek	Lake Chinnabee	S/F&W
Lake Chinnabee	Within Talladega National Forest		S/F&W
Kelly Creek	Cheaha Creek	Its source	F&W
Brecon Branch	Kelly Creek	Its source	F&W
Coldwater Creek	Choccolocco Creek	Its source	F&W
Coldwater Spring			PWS/F&W
Snow Creek	Choccolocco Creek	Its source	F&W
Dye Creek	COOSA RIVER (Logan Martin Lake)	Its source	F&W
Cane Creek	COOSA RIVER (Logan Martin Lake)	Its source	F&W
Cave Creek	Cane Creek	Its source	F&W



Stream	From	To	Classification
Ohatchee Creek	COOSA RIVER (Logan Martin Lake)	Its source	S/F&W
Tallahatchee Creek	Ohatchee Creek	Its source	F&W
Tributary of Tallahatchee Creek	Tallahatchee Creek	Its source	F&W
Big Canoe Creek	COOSA RIVER (Lake Henry)	Its source	F&W
Little Canoe Creek	Big Canoe Creek	Its source	F&W
Spring Creek	Little Canoe Creek	Its source	F&W
Big Wills Creek	COOSA RIVER (Lake Henry- Lake Gadsden)	100 yds. below Allen Branch	F&W
Big Wills Creek	100 yds. below Allen Branch	Its source	PWS/F&W
Lake Gadsden (Lake Henry)	U. S. Highway 411	Impoundment limits	F&W
Black Creek	Lake Henry (Lake Gadsden)	U. S. Highway 431	A&I
Black Creek	U. S. Highway 431	Its source	F&W
Allen Branch	Big Wills Creek	Ft. Payne public water supply dam	F&W
Allen Branch	Ft. Payne public water supply dam	Its source	PWS/F&W
Coleman Lake	Within Talladega National Forest		S/F&W
Sweetwater Lake	Within Talladega National Forest		PWS/S/F&W
High Rock Lake	Within Talladega National Forest		S/F&W
Hillabee Lake	Within Talladega National Forest		PWS/S/F&W
Salt Creek Lake	Within Talladega National Forest		S/F&W
Shoal Creek	Choccolocco Creek	Sweetwater Lake	S/F&W

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<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Ladiga Creek	Terrapin Creek	Terrapin Creek	PWS

## (7) THE ESCATAWPA RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Big Creek	Alabama-Mississippi state line	Big Creek Reservoir	F&W
Big Creek	Big Creek Reservoir	Its source	PWS/F&W
ESCATAWPA RIVER	Alabama-Mississippi state line	Its source	S/F&W

INTRASTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Puppy Creek	ESCATAWPA RIVER	Its source	F&W

## (8) THE LOWER TOMBIGBEE RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
TOMBIGBEE RIVER	MOBILE RIVER	One-half mile downstream from Southern Railway Crossing	F&W
TOMBIGBEE RIVER	One-half mile downstream from Southern Railway Crossing	Five miles upstream from U. S. Highway 43	PWS/S/F&W
TOMBIGBEE RIVER	Five miles upstream from U. S. Highway 43	Jackson Lock and Dam	F&W
TOMBIGBEE RIVER	Jackson Lock and Dam	Beach Bluff (River Mile 141)	S/F&W
TOMBIGBEE RIVER	Beach Bluff (River Mile 141)	One-half mile downstream from Alabama Highway 114	F&W <sup>1</sup>
TOMBIGBEE RIVER	One-half mile downstream from Alabama Highway 114	Three miles upstream from Alabama Highway 114	PWS/F&W <sup>1</sup>
TOMBIGBEE RIVER	Three miles upstream from Alabama Highway 114	Demopolis Lock and Dam	F&W <sup>1</sup>
TOMBIGBEE RIVER	Demopolis Lock and Dam	WARRIOR RIVER	S/F&W
Okatuppa Creek	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W
Bogueloosa Creek	Okatuppa Creek	Its source	F&W
Tuckabum Creek	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W

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<sup>1</sup> Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
Yantley Creek	Tuckabum Creek	Alabama-Mississippi state line	F&W
Sucarnoochee River	TOMBIGBEE RIVER	U. S. Highway 11	F&W
Sucarnoochee River	U. S. Highway 11	Five miles upstream from Livingston city limits	PWS/S/F&W
Sucarnoochee River	Five miles upstream from U. S. Highway 11	Alabama-Mississippi state line	F&W
Alamuchee Creek	Sucarnoochee River	Alabama-Mississippi state line	F&W
Toomsuba Creek	Alamuchee Creek	AT&N Railroad	F&W
Toomsuba Creek	AT&N Railroad	Alabama-Mississippi state line	PWS/F&W

INTRASTATE WATERS

Stream	From	To	Classification
Bilbo Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bates Creek	Bilbo Creek	Its source	S/F&W
Lewis Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bassett's Creek (Washington County)	TOMBIGBEE RIVER	Its source	S/F&W
Little Bassett's Creek (Washington County)	Bassett's Creek (Washington County)	Its source	F&W
Miles Creek	Little Bassett's Creek (Washington County)	Its source	F&W
Bassett's Creek (Clarke County)	TOMBIGBEE RIVER	Its source	F&W
James Creek	Bassett's Creek (Clarke Co.)	Its source	F&W
Jackson Creek	TOMBIGBEE RIVER	Its source	F&W

Stream	From	To	Classification
Satilpa Creek	TOMBIGBEE RIVER	Its source	S/F&W
Santa Bogue Creek	TOMBIGBEE RIVER	Its source	S/F&W
Turkey Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bashi Creek	TOMBIGBEE RIVER	Its source	S/F&W
Tishlarka Creek	TOMBIGBEE RIVER	Its source	F&W
Wahalak Creek	Tishlarka Creek	Its source	F&W
Horse Creek	TOMBIGBEE RIVER	Its source	S/F&W
Beaver Creek	TOMBIGBEE RIVER	Its source	S/F&W
Kinterbish Creek	TOMBIGBEE RIVER	Its source	S/F&W
Chickasaw Bogue	TOMBIGBEE RIVER	Its source	F&W
Sycamore Creek	Chickasaw Bogue	Its source	F&W
Unnamed tributary southwest of York (Lake Louise)	Toomsuba Creek	Its source	PWS

## (9) THE MOBILE RIVER-MOBILE BAY BASIN

INTERSTATE AND COASTAL WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Mobile River and all other rivers, creeks, lakes of the Mobile River Delta and their tributaries except as otherwise designated			F&W
MOBILE RIVER	Tensaw River	Barry Steam Plant	PWS/F&W
MOBILE RIVER	Its mouth	Spanish River	LWF <sup>4</sup>
Tensaw River	Junction of Tensaw and Apalachee Rivers	Junction of Briar Lake	OAW/S/F&W
Tensaw River	Junction of Briar Lake	Junction of Tensaw Lake	OAW/F&W
Briar Lake	Junction of Tensaw River	Junction of Tensaw Lake	OAW/F&W
Tensaw Lake	Junction of Tensaw River	Bryant Landing	OAW/F&W
MOBILE BAY	West of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/ Long. 0875944.2)	A point due east of the mouth of Dog River (Lat. 303353.2/ Long. 0880515.3)	F&W
MOBILE BAY	South of a line drawn due east from the mouth of Dog River (Lat. 303353.2/ Long. 0880515.3) and east of a line drawn due south from the western shore of Chacaloochee Bay (Lat. 304047.3/ Long. 0875944.2) and all other portions of MOBILE BAY		S/F&W

<sup>4</sup> For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years (7Q<sub>10</sub>) shall be the basis for applying the chronic aquatic life criteria.

Stream	From	To	Classification
MOBILE BAY	All that portion lying south of a line extending in an easterly direction from the south bank of East Fowl River at its mouth (Lat. 302703.1/ Long. 0880622.6) through lighted beacon (FL 2 seconds) (Lat. 302707.5/ Long. 0880539.3) to lighted beacon (FLG 4 seconds "23") (Lat. 302718.3/ Long. 0880058.3) at the Mobile Ship Channel thence in a northeasterly direction to Daphne (Bench Mark 157, Lat. 303607.5/ Long. 0875416.4)		SH/F&W
Bon Secour Bay	In its entirety (east and south of a line connecting Mullet Point, Lat. 332435.0/ Long. 0875423.2, and Engineers Point, Lat. 301350.1/ Long. 0880126.2, at Fort Morgan)		SH/S/F&W
Mississippi Sound and contiguous waters excepting: that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou Coden to a lighted beacon (FLR 4 seconds "6") (Lat. 302231.2/ Long. 0881425.8) and lighted beacon (FL 4 seconds "1") (Lat. 302223.7/ Long. 0881434.8); that portion of Portersville Bay 1,000 feet on each side of a straight line connecting the shore at Bayou La Batre and lighted beacons (FR) (Lat. 302311.0/Long. 0881609.6) and (FLR 4 seconds "6") (Lat. 302105.2/ Long. 0881702.2), and that portion of Bayou Aloe within 1,000 feet of the outfall (Lat. 301552.0/ Long. 0880702.1) of the Dauphin Island sewage treatment plant			SH/S/F&W
Waters excepted in foregoing description of Portersville Bay and contiguous waters			F&W
Oyster Bay and that portion of Bon Secour River west of a line drawn due north from the east bank of the inlet connecting Oyster Bay and Bon Secour River			SH/F&W
Coastal waters of the Gulf of Mexico contiguous to the State of Alabama			SH/S/F&W
Intracoastal Waterway	Bon Secour Bay	Alabama Highway 59	F&W
Bon Secour River	Bon Secour Bay	One mile upstream from first bridge above its mouth	S/F&W
Boggy Branch	Bon Secour River	Its source	S/F&W



Stream	From	To	Classification
Weeks Bay	Bon Secour Bay	Fish River	S/F&W <sup>3</sup>
Magnolia River	Weeks Bay	Its source	S/F&W
Fish River	Weeks Bay	Clay City	S/F&W
Turkey Branch	Fish River	Its source	S/F&W
Waterhole Branch	Fish River	Its source	S/F&W
Cowpen Creek	Fish River	Its source	S/F&W
Point Clear Creek	MOBILE BAY	Its source	F&W
Fly Creek	MOBILE BAY	Its source	S/F&W
Rock Creek	MOBILE BAY	Its source	F&W
D'Olive Creek	D'Olive Bay	Its source	F&W
West Fowl River	Fowl River Bay	Its source	S/F&W
Bayou Coden	Portersville Bay	Its source	F&W
Bayou La Batre	Portersville Bay	Its source	F&W
Little River	Portersville Bay	Its source	F&W
East Fowl River	Fowl River	Its source	S/F&W
Fowl River	MOBILE BAY	Its source	S/F&W
Deer River and its forks	MOBILE BAY	Their sources	F&W
Dog River	MOBILE BAY	Halls Mill Creek	S/F&W
Halls Mill Creek	Dog River	Its source	F&W
Alligator Bayou	Dog River	Its source	F&W
Rabbit Creek	Dog River	Its source	F&W
Rattlesnake Bayou	Dog River	Its source	F&W

<sup>3</sup>The special designation of Outstanding National Resource Water applies to this segment.

Stream	From	To	Classification
Robinson's Bayou	Dog River	Its source	F&W
Three Mile Creek	MOBILE RIVER	Mobile Street	A&I
Industrial Canal	Three Mile Creek	Its source	A&I
Chickasaw Creek	MOBILE RIVER	Limit of tidal effects (Highway 43)	LWF
Hog Bayou	Chickasaw Creek	Its source	F&W
Little Lagoon (Baldwin County)	In its entirety		SH/S/F&W
Bayou Sara	MOBILE RIVER	U. S. Highway 43	S/F&W
Bayou Sara	U. S. Highway 43	Its source	F&W
Gunnison Creek	Bayou Sara	Its source	S/F&W
Steele Creek	Gunnison Creek	Its source	S/F&W

NOTE: Waters of the Mobile River-Mobile Bay Basin classified for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS, SHELLFISH HARVESTING and/or FISH AND WILDLIFE in which natural conditions provide an appropriate habitat for shrimp and crabs are to be suitable for the propagation and harvesting of shrimp and crabs.

#### INTRASTATE WATERS

Stream	From	To	Classification
Bon Secour River	One mile upstream from first bridge above its mouth	Its source	S/F&W
Fish River	Clay City	Its source	S/F&W
Polecat Creek	Fish River	Its source	S/F&W
Corn Branch	Fish River	Its source	F&W
Three Mile Creek	Mobile Street	Its source	A&I
Chickasaw Creek	Limit of tidal effects	Mobile College	F&W
Chickasaw Creek	Mobile College	Its source	S/F&W
Eight Mile Creek	Chickasaw Creek	City of Prichard's water supply intake	F&W

Stream	From	To	Classification
Eight Mile Creek	City of Prichard's water supply intake	U. S. Highway 45	PWS/F&W
Eight Mile Creek	U. S. Highway 45	Its source	F&W
Norton Creek	Bayou Sara	Its source	F&W
Martin Branch	Tensaw River	Its source	F&W
Cold Creek	MOBILE RIVER	Dam 1 1/2 miles west of U.S. Highway 43	F&W <sup>2</sup>
Cold Creek	Dam 1 1/2 miles west of U. S. Highway 43	Its source	PWS/F&W

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<sup>2</sup>Due to naturally occurring conditions, quality in this segment may not always be commensurate with the classification assigned.

## (10) THE PERDIDO/ESCAMBIA RIVER BASIN (TO INCLUDE THE BLACKWATER, CONECUH, PERDIDO, AND YELLOW RIVER SUB-BASINS)

INTERSTATE WATERS OF THE BLACKWATER RIVER BASIN

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
BLACKWATER RIVER	Alabama-Florida state line	Its source	F&W
Big Juniper Creek	Alabama-Florida state line	Its source	F&W
Sweetwater Creek	Alabama-Florida state line	Its source	F&W
Rock Creek	Alabama-Florida state line	Its source	F&W
Boggy Hollow Creek	Alabama-Florida state line	Its source	F&W

INTERSTATE WATERS OF THE CONECUH RIVER BASIN

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
CONECUH RIVER	Alabama-Florida state line	Point A Dam	F&W
CONECUH RIVER	Point A Dam	Head of Gantt Lake	S/F&W
CONECUH RIVER	Head of Gantt Lake	Its source	F&W
Little Escambia Creek	Alabama-Florida state line	Its source	F&W
Big Escambia Creek	Alabama-Florida state line	Its source	F&W
Pine Barren Creek	Alabama-Florida state line	Its source	F&W
Dixon Creek	Alabama-Florida state line	Its source	F&W
Canoe Creek	Alabama-Florida state line	Its source	F&W
Reedy Creek	Alabama-Florida state line	Its source	F&W

Stream	From	To	Classification
Beaver Dam Creek	Alabama-Florida state line	Its source	F&W

INTRASTATE WATERS OF THE CONECUH RIVER BASIN

Stream	From	To	Classification
Murder Creek	CONECUH RIVER	Its source	F&W
Sandy Creek	Murder Creek	Its source	F&W
Burnt Corn Creek	Murder Creek	Its source	S/F&W
Sepulga River	CONECUH RIVER	Its source	F&W
Pigeon Creek	Sepulga River	Its source	F&W
Unnamed Tributary	Pigeon Creek	Its source	F&W
Persimmon Creek	Sepulga River	Its source	F&W
Rocky Creek	Persimmon Creek	Its source	F&W
Prestwood Creek	CONECUH RIVER	Its source	F&W
Unnamed Tributary west of Andalusia	CONECUH RIVER	Its source	F&W
Patsaliga Creek	CONECUH RIVER	Its source	F&W
Little Patsaliga Creek	Patsaliga Creek	Its source	S/F&W
Double Branch	CONECUH RIVER	Its source	F&W
Sizemore Creek	Big Escambia Creek	Its source	S/F&W
Wet Weather Creek	Sizemore Creek	Its source	F&W

INTERSTATE AND COASTAL WATERS OF THE PERDIDO RIVER BASIN

Stream	From	To	Classification
PERDIDO BAY and all connecting coves and bayous	Gulf of Mexico	Its source	S/F&W/SH
Intracoastal Waterway	Alabama Highway 59	Wolf Bay	F&W

Stream	From	To	Classification
Wolf Bay and all connecting coves and bayous	Intracoastal Waterway	Its source	S/F&W/SH
Bay La Launch and all connecting coves and bayous	Wolf Bay	Arnica Bay	S/F&W/SH
Arnica Bay and all connecting coves and bayous	Bay La Launch	PERDIDO BAY	S/F&W/SH
Miflin Creek	Wolf Bay	Limit of tidal effects	S/F&W
Hammock Creek	Wolf Bay	Limit of tidal effects	S/F&W
Palmetto Creek	PERDIDO BAY	Its source	S/F&W
Spring Branch	PERDIDO BAY	Its source	S/F&W
Soldier Creek	PERDIDO BAY	Its source	S/F&W
PERDIDO RIVER	PERDIDO BAY	Its source	F&W
Perdido Creek	PERDIDO RIVER	Its source	F&W
Brushy Creek	Alabama-Florida state line	Its source	F&W
Shelby Lakes	Within Gulf State Park		S/F&W
Coastal waters of the Gulf of Mexico Contiguous to the State of Alabama			S/F&W/SH

NOTE: Waters of the Perdido River Basin classified for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS, SHELLFISH HARVESTING and/or FISH AND WILDLIFE in which natural conditions provide an appropriate habitat for shrimp and crabs are to be suitable for the propagation and harvesting of shrimp and crabs.

#### INTRASTATE WATERS OF THE PERDIDO RIVER BASIN

Stream	From	To	Classification
Wolf Creek	Wolf Bay	Its source	F&W
Sandy Creek	Wolf Bay	Its source	S/F&W
Miflin Creek	Limit of tidal effects	Its source	F&W

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
BLACKWATER RIVER	PERDIDO RIVER	Its source	F&W
Negro Creek	BLACKWATER RIVER	Its source	F&W
Rock Creek	BLACKWATER RIVER	Its source	F&W
Styx River	PERDIDO RIVER	Hollinger Creek	F&W
Styx River	Hollinger Creek	Its source	S/F&W
Hollinger Creek	Styx River	Its source	F&W
Dyas Creek	PERDIDO RIVER	Its source	S/F&W

INTERSTATE WATERS OF THE YELLOW RIVER BASIN

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
YELLOW RIVER	Alabama-Florida state line	Its source	F&W
Pond Creek	Alabama-Florida state line	Its source	F&W
Big Creek	Alabama-Florida state line	Its source	F&W
Horsehead Creek	Alabama-Florida state line	Its source	F&W
Fleming Creek	Alabama-Florida state line	Its source	F&W
Lake Jackson	Within Florida and north of Alabama-Florida state line		S/F&W

INTRASTATE WATERS OF THE YELLOW RIVER BASIN

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Five Runs Creek	YELLOW RIVER	Its source	F&W
Indian Creek	YELLOW RIVER	Its source	F&W
Lightwood Knot Creek	YELLOW RIVER	Its source	F&W

Stream	From	To	Classification
Cameron Creek	Lightwood Knot Creek	Its source	F&W
Bay Branch	Five Runs Creek	Its source	F&W
Blue Lake	Within Conecuh National Forest		S/F&W
Open Pond	Within Conecuh National Forest		S/F&W
Dowdy Pond	Within Conecuh National Forest		S/F&W



## (11) THE TALLAPOOSA RIVER BASIN

INTERSTATE WATERS

Stream	From	To	Classification
TALLAPOOSA RIVER	ALABAMA RIVER	U. S. Highway 231	F&W
TALLAPOOSA RIVER	U. S. Highway 231	Thurlow Dam	PWS/F&W
TALLAPOOSA RIVER (Thurlow Lake)	Thurlow Dam	Yates Dam	PWS/S/F&W
TALLAPOOSA RIVER (Yates Lake)	Yates Dam	Martin Dam	PWS/S/F&W
TALLAPOOSA RIVER (Lake Martin)	Martin Dam	Highway 280	S/F&W
TALLAPOOSA RIVER (Lake Martin)	Highway 280	Hillabee Creek	PWS/S/F&W
TALLAPOOSA RIVER	Hillabee Creek	R.L. Harris Dam	F&W
TALLAPOOSA RIVER (R.L. Harris Lake)	R.L. Harris Dam	Four miles upstream of Randolph County Road 88 (Lee Bridge)	S/F&W
TALLAPOOSA RIVER	Four miles upstream of Randolph County Road 88 (Lee Bridge)	One-half mile upstream of Cleburne County Road 36	F&W
TALLAPOOSA RIVER	One-half mile upstream of Cleburne County Road 36	Cleburne County Road 19	PWS/F&W
TALLAPOOSA RIVER	Cleburne County Road 19	Alabama-Georgia state line	F&W
Little Tallapoosa River (R.L. Harris Lake)	TALLAPOOSA RIVER (R.L. Harris Lake)	U.S. Highway 431	S/F&W

Stream	From	To	Classification
Little Tallapoosa River (R.L. Harris Lake)	U.S. Highway 431	Five miles upstream of U.S. Highway 431	PWS/S/F&W

Little Tallapoosa River	Five miles upstream of U.S. Highway 431	Alabama-Georgia state line	F&W
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INTRASTATE WATERS

Stream	From	To	Classification
Oakfuskee Creek (Line Creek)	TALLAPOOSA RIVER	Its source	F&W

Old Town Creek	Oakfuskee Creek (Line Creek)	Its source	F&W
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Cubahatchee Creek	TALLAPOOSA RIVER	Its source	S/F&W
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Calebee Creek	TALLAPOOSA RIVER	Its source	F&W
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Uphapee Creek	TALLAPOOSA RIVER	Its source	F&W
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Bulger Creek	Uphapee Creek	Its source	PWS/F&W
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Parkerson Mill Creek	Chewacla Creek	Its source	F&W
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Chewacla Creek	Uphapee Creek	Chewacla State Park Lake (Moore's Mill Creek)	F&W
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Chewacla Creek	Chewacla State Park Lake (Moore's Mill Creek)	Its source	PWS/F&W
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Moore's Mill Creek	Chewacla Creek (Dam at Chewacla State Park Lake)	Its source	S/F&W
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Sougahatchee Creek	TALLAPOOSA RIVER (Yates Lake)	Sougahatchee Lake Dam	F&W
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Sougahatchee Creek	Sougahatchee Lake Dam	Its source	PWS/F&W
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Pepperell Branch	Sougahatchee Creek	Its source	F&W
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Head Creek	Sougahatchee Creek	Its source	F&W
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Stream	From	To	Classification
Little Kowaliga Creek (Lake Martin)	Big Kowaliga Creek (Lake Martin)	Reservoir Limits	PWS/S/F&W
Sandy Creek	TALLAPOOSA RIVER (Lake Martin)	Its source	F&W
Chattasofka Creek	Sandy Creek	Its source	F&W
North Fork of Sandy Creek	Sandy Creek	Its source	F&W
South Fork of Sandy Creek	Sandy Creek	Its source	F&W
Little Sandy Creek	South Fork of Sandy Creek	Central of Georgia RR	F&W
Little Sandy Creek	Central Georgia RR	Its source	PWS/F&W
Manoy Creek (Lake Martin)	TALLAPOOSA RIVER (Lake Martin)	Reservoir Limits	PWS/S/F&W
Elkahatchee Creek	TALLAPOOSA RIVER (Lake Martin)	Alabama Highway 63	F&W
Elkahatchee Creek	Alabama Highway 63	Alabama Highway 22	PWS/F&W
Elkahatchee Creek	Alabama Highway 22	Its source	F&W
Harold Creek	Elkahatchee Creek	Its source	F&W
Sugar Creek	Elkahatchee Creek	Its source	F&W
Coley Creek	TALLAPOOSA RIVER (Lake Martin)	Its source	F&W
Hillabee Creek	TALLAPOOSA RIVER	Jct. of Oaktasasi and Town Creeks	F&W
Hillabee Creek	Jct. of Oaktasasi and Town Creeks	County road bridge 3 miles east of Hackneyville	PWS/F&W
Hillabee Creek	County road bridge 3 miles east of Hackneyville	Its source	F&W
Oaktasasi Creek	Hillabee Creek	Its source	F&W

Stream	From	To	Classification
Christian Creek	Oaktasasi Creek	Its source	F&W
Dobbs Creek	Oaktasasi Creek	Its source	F&W
Town Creek	Hillabee Creek	Its source	F&W
Hackney Creek	Town Creek	Its source	PWS/F&W
Chatahospee Creek	TALLAPOOSA RIVER	Its source	F&W
Mill Creek	Chatahospee Creek	Its source	F&W
Finley Creek	Mill Creek	Its source	PWS/F&W
High Pine Creek	TALLAPOOSA RIVER	Highway 431 Crossing	F&W
High Pine Creek	Highway 431 crossing	Its source	PWS
Jones Creek	High Pine Creek	Its source	PWS
Unnamed tributary to Jones Creek northwest of Roanoke	Jones Creek	Its source	PWS
Graves Creek	High Pine Creek	Its source	F&W
Town Creek	High Pine Creek	Its source	F&W
Hutton Creek	TALLAPOOSA RIVER	Its source	F&W
Beaverdam Creek	TALLAPOOSA RIVER	Its source	F&W
Crooked Creek	TALLAPOOSA RIVER	Alabama Highway 9	F&W
Crooked Creek	Alabama Highway 9	Its source	PWS/F&W
Horsetrough Creek	Crooked Creek	Its source	F&W
Wedowee Creek	Little Tallapoosa River	Its source	F&W
Cahulga Creek	TALLAPOOSA RIVER	U. S. Highway 78	F&W
Cahulga Creek	U .S. Highway 78	Its source	PWS/F&W

## (12) THE TENNESSEE RIVER BASIN

INTERSTATE WATERS

Stream	From	To	Classification
TENNESSEE RIVER Pickwick Lake	Alabama-Tennessee state line	Lower end of Seven Mile Island	PWS/S/F&W
TENNESSEE RIVER Pickwick Lake	Lower end of Seven Mile Island	Sheffield water intake	F&W
TENNESSEE RIVER Pickwick Lake	Sheffield water intake	Wilson Dam	PWS/F&W
TENNESSEE RIVER Wilson Lake	Wilson Dam	Wheeler Dam	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Wheeler Dam	Five miles upstream of Elk River (RM 289.3)	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Five miles upstream of Elk River (RM 289.3)	U. S. Highway 31 (see Note 1 this basin)	S/F&W
TENNESSEE RIVER Wheeler Lake	U. S. Highway 31	Flint Creek	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Flint Creek	Cotaco Creek	S/F&W
TENNESSEE RIVER Wheeler Lake	Cotaco Creek	Indian Creek	PWS/S/F&W
TENNESSEE RIVER Wheeler Lake	Indian Creek	Flint River	PWS/F&W
TENNESSEE RIVER Wheeler Lake	Flint River	Guntersville Dam	S/F&W
TENNESSEE RIVER Guntersville Lake	Guntersville Dam	Upper end of Buck's Island (see Note 2 this basin)	PWS/S/F&W
TENNESSEE RIVER Guntersville Lake	Upper end of Buck's Island	Roseberry Creek	S/F&W

Stream	From	To	Classification
TENNESSEE RIVER Guntersville Lake	Roseberry Creek	Alabama-Tennessee state line (see Note 3 this basin)	PWS/S/F&W
Bear Creek	Alabama-Mississippi state line	Bear Creek Lake Dam	F&W
Bear Creek (Bear Creek Lake)	Bear Creek Lake Dam	Alabama Highway 187	PWS/S/F&W
Bear Creek	Alabama Highway 187	Upper Bear Creek Lake Dam	S/F&W
Bear Creek (Upper Bear Creek Lake)	Upper Bear Creek Lake Dam	Alabama Highway 243	PWS/S/F&W
Bear Creek	Alabama Highway 243	Its source	F&W
Cedar Creek	Bear Creek	Alabama-Mississippi state line	F&W
Cedar Creek	Alabama-Mississippi state line	Cedar Creek Lake Dam	F&W
Cedar Creek (Cedar Creek Lake)	Cedar Creek Lake Dam	Alabama Highway 24	PWS/S/F&W
Cedar Creek	Alabama Highway 24	Its source	F&W
Bear Creek	U. S. Highway 72	Alabama-Mississippi state line	F&W
Bear Creek	TENNESSEE RIVER (Pickwick Lake)	U. S. Highway 72	S/F&W
Second Creek	TENNESSEE RIVER (Pickwick Lake)	Alabama-Tennessee state line	F&W
Cypress Creek	TENNESSEE RIVER (Pickwick Lake)	City of Florence Water Treatment Plant	F&W
Cypress Creek	City of Florence Water Treatment Plant	Little Cypress Creek	PWS/F&W

Stream	From	To	Classification
Cypress Creek	Little Cypress Creek	Alabama-Tennessee state line	F&W
Little Cypress Creek	Cypress Creek	Alabama-Tennessee state line	F&W
Shoal Creek	TENNESSEE RIVER (Wilson Lake)	Indian Camp Creek	S/F&W
Shoal Creek	Indian Camp Creek	Alabama-Tennessee state line	F&W
Bluewater Creek	TENNESSEE RIVER (Wilson Lake)	U. S. Highway 72	S/F&W
Bluewater Creek	U. S. Highway 72	Alabama-Tennessee state line	F&W
Second Creek	TENNESSEE RIVER (Wheeler Lake)	First bridge upstream from U. S. Highway 72	S/F&W
Second Creek	First bridge upstream from U. S. Highway 72	Alabama-Tennessee state line	F&W
Elk River	TENNESSEE RIVER (Wheeler Lake)	Alabama Highway 99	S/F&W
Elk River	Alabama Highway 99	Alabama-Tennessee state line	PWS/F&W
Piney Creek	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W
Limestone Creek	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W
Flint River	TENNESSEE RIVER (Wheeler Lake)	Big Cove Creek	F&W
Flint River	Big Cove Creek	Hurricane Creek	PWS/F&W
Flint River	Hurricane Creek	Alabama-Tennessee state line	F&W
Paint Rock River (including Estill and Larkin Forks)	TENNESSEE RIVER (Wheeler Lake)	Alabama-Tennessee state line	F&W

Stream	From	To	Classification
Crow Creek	TENNESSEE RIVER (Guntersville Lake)	Alabama-Tennessee state line	F&W
Lookout Creek	Alabama-Georgia state line	Junction of East Fork Lookout Creek and West Fork Lookout Creek	S/F&W

NOTE 1. That portion of Wheeler Lake in the immediate vicinity of the discharge from the City of Decatur's sewage treatment plant is not considered suitable for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS.

NOTE 2. Those portions of Guntersville Lake in the immediate vicinity of discharges from the City of Guntersville's sewage treatment plants are not considered suitable for SWIMMING and OTHER WHOLE BODY WATER-CONTACT SPORTS nor for sources of PUBLIC WATER SUPPLY.

NOTE 3. That portion of Guntersville Lake in the immediate vicinity of the discharge of sewage from the City of Bridgeport is not considered suitable for use as a source of PUBLIC WATER SUPPLY nor for SWIMMING AND OTHER WHOLE BODY WATER-CONTACT SPORTS.

#### INTRASTATE WATERS

Stream	From	To	Classification
Little Bear Creek (Franklin County)	Cedar Creek	Little Bear Creek Lake Dam	S/F&W
Little Bear Creek (Little Bear Creek Lake, Franklin County)	Little Bear Creek Lake Dam	Alabama Highway 187	PWS/S/F&W
Little Bear Creek (Franklin County)	Alabama Highway 187	Its source	S/F&W
Dunkin Creek	Cedar Creek	Its source	PWS
Little Bear Creek	Bear Creek	Its source	PWS/S/F&W
Mud Creek	Cedar Creek	Its source	F&W
Flat Creek	Bear Creek	Its source	F&W
Cane Creek	TENNESSEE RIVER	Its source	S/F&W



Stream	From	To	Classification
Little Bear Creek (Colbert County)	TENNESSEE RIVER	Its source	S/F&W
Stinking Bear Creek	Little Bear Creek (Colbert County)	Its source	F&W
Spring Creek (Colbert County)	TENNESSEE RIVER	Its source	F&W
Cox Creek	Cypress Creek	Its source	F&W
Pond Creek	TENNESSEE RIVER	Its source	A&I
Town Creek	TENNESSEE RIVER	Its source	F&W
Big Nance Creek	TENNESSEE RIVER	Its source	F&W
Muddy Fork	Big Nance Creek	Crow Branch	A&I
Crow Branch	Muddy Fork	Its source	A&I
Clear Fork	Big Nance Creek	Its source	F&W
Sinking Creek	Clear Fork	Its source	PWS/F&W
First Creek	TENNESSEE RIVER	Its source	S/F&W
Spring Creek (Lawrence County)	TENNESSEE RIVER	Its source	F&W
Swan Creek	TENNESSEE RIVER	Highway 24 crossing	F&W
Swan Creek	Highway 24 crossing	Town Creek	A&I
Swan Creek	Town Creek	Its source	F&W
Town Creek (Athens)	Swan Creek	Its source	F&W
Flint Creek	TENNESSEE RIVER	L & N Railroad	F&W
Flint Creek	L & N Railroad	Alabama Highway 36	PWS/F&W
Flint Creek	Alabama Highway 36	Shoal Creek	LWF <sup>4</sup>

<sup>4</sup> For the purpose of establishing effluent limitations pursuant to Chapter 335-6-6 of the Department's regulations, the minimum 7-day low flow that occurs once in 10 years (7Q<sub>10</sub>) shall be the basis for applying the chronic aquatic life criteria.

Stream	From	To	Classification
Flint Creek	Shoal Creek	Its source	F&W
Shoal Creek	Flint Creek	Its source	F&W
Cotaco Creek	TENNESSEE RIVER	Its source	S/F&W
Mill Pond Creek	Cotaco Creek	Junction with Gilliam Creek	F&W
Gilliam Creek	Mill Pond Creek	Its source	F&W
Bradford Creek	Barren Fork Creek	Its source	F&W
Indian Creek	TENNESSEE RIVER	Its source	F&W
Huntsville Spring Branch	Indian Creek	Its source	F&W
Aldridge Creek	TENNESSEE RIVER	Its source	F&W
Hurricane Creek	Flint River	Its source	F&W
Sand Branch	Hurricane Creek	Its source	F&W
Short Creek	TENNESSEE RIVER	Scarham Creek	PWS/F&W
Short Creek	Scarham Creek	Its source	F&W
Drum Creek	Short Creek	Its source	F&W
East Fork of Drum Creek	Drum Creek	Its source	F&W
Turkey Creek	Short Creek	Its source	F&W
Town Creek (DeKalb County)	TENNESSEE RIVER	Its source	F&W
South Sauty Creek	TENNESSEE RIVER	Its source	S/F&W
North Sauty Creek	TENNESSEE RIVER	Its source	PWS
Roseberry Creek	TENNESSEE RIVER	Its source	F&W
Coon-Flat Rock Creek	TENNESSEE RIVER	Its source	S/F&W

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
Widow's Creek	TENNESSEE RIVER	Its source	S/F&W
Long Island Creek	TENNESSEE RIVER	Long Creek	PWS/S/F&W
Long Island Creek	Long Creek	Its source	S/F&W
Turkey Creek	Clear Fork	Its source	PWS/F&W
Bengis Creek	Town Creek	Its source	F&W

## (13) THE UPPER TOMBIGBEE RIVER BASIN

INTERSTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
TOMBIGBEE RIVER	Junction with WARRIOR RIVER	Cobb Creek	S/F&W
TOMBIGBEE RIVER	Cobb Creek	Gainesville Lock and Dam	F&W
TOMBIGBEE RIVER (Gainesville and Aliceville Lakes)	Gainesville Lock and Dam	Alabama-Mississippi state line	S/F&W
Noxubee River	TOMBIGBEE RIVER	Alabama-Mississippi state line	F&W
Bodka Creek	Noxubee River	Alabama-Mississippi state line	F&W
Yellow Creek	At Alabama- Mississippi state line		PWS
Yellow Creek	Alabama-Mississippi state line	Its source	F&W
Buttahatchee River	Alabama-Mississippi state line	U.S. Hwy. 278 one mile east of junction of U.S. Highways 43 and 78 in Hamilton	F&W
Buttahatchee River	U.S. Hwy. 278 one mile east of junction of U.S. Highways 43 and 78 in Hamilton	U.S. Hwy. 278 seven miles east of junction of U.S. Highways 43 and 78 in Hamilton	PWS/F&W
Buttahatchee River	U.S. Hwy. 278 seven miles east of junction of U.S. Highways 43 and 78 in Hamilton	Lake Buttahatchee Dam	F&W
Buttahatchee River	Lake Buttahatchee Dam	Head of backwaters of Lake Buttahatchee	S
Buttahatchee River	Head of backwaters of Lake Buttahatchee	Its source	F&W

Stream	From	To	Classification
Bull Mountain Creek	Alabama-Mississippi state line	Its source	F&W
Sipsey Creek	Alabama-Mississippi state line	Its source	F&W
Luxapallila Creek	At Alabama-Mississippi state line		PWS
Luxapallila Creek	Alabama-Mississippi state line	County Road 37	F&W
Luxapallila Creek	County Road 37	County road crossing approximately 6 miles upstream from Alabama Highway 18	PWS/F&W
Luxapallila Creek	County road crossing approximately 6 miles upstream from Alabama Highway 18	U .S. Highway 78	F&W
Luxapallila Creek	U. S. Highway 78	Its source	PWS/F&W

#### INTRASTATE WATERS

Stream	From	To	Classification
Sipsey River	TOMBIGBEE RIVER	U. S. Highway 43	F&W
Sipsey River	U. S. Highway 43	Alabama Highway 102	PWS/F&W
Sipsey River	Alabama Highway 102	Its source	F&W
New River	Sipsey River	Its source	F&W
Little New River	Sipsey River	Its source	F&W
Lubbub Creek	TOMBIGBEE RIVER	Its source	F&W
Bear Creek	Lubbub Creek	Its source	F&W
Little Bear Creek	Bear Creek	Its source	F&W
Coal Fire Creek	TOMBIGBEE RIVER	Its source	S/F&W
Bogue Creek	Buttahatchee River	Its source	F&W
Beaver Creek	Buttahatchee River	U. S. Highway 78	F&W

Stream	From	To	Classification
Beaver Creek	U. S. Highway 78	Its source	PWS/F&W
Purgatory Creek	Beaver Creek	U. S. Highway 278	F&W
Purgatory Creek	U. S. Highway 278	Its source	PWS/F&W
Camp Creek	Buttahatchee River	Its source	F&W
East Branch Luxapallila Creek	Luxapallila Creek At Winfield	Its source	PWS/F&W
Moore Creek	Buttahatchee River	Its source	F&W

## (14) THE WARRIOR RIVER BASIN

INTRASTATE WATERS

<u>Stream</u>	<u>From</u>	<u>To</u>	<u>Classification</u>
WARRIOR RIVER	TOMBIGBEE RIVER	Five miles upstream from Big Prairie Creek	S/F&W
WARRIOR RIVER	Five miles upstream from Big Prairie Creek	Eight miles upstream from Big Prairie Creek	PWS/S/F&W
WARRIOR RIVER	Eight miles upstream from Big Prairie Creek	Warrior Lock and Dam	S/F&W
WARRIOR RIVER	Warrior Lock and Dam	Oliver Lock and Dam	F&W
WARRIOR RIVER	Oliver Lock and Dam	Hurricane Creek	F&W <sup>1</sup>
WARRIOR RIVER	Hurricane Creek	Bankhead Lock and Dam	S/F&W <sup>1</sup>
WARRIOR RIVER	Bankhead Lock and Dam	Junction of Locust and Mulberry Forks	PWS/S/F&W
Locust Fork	Junction of Locust and Mulberry Forks	Jefferson County Highway 61 (Maxine)	PWS/S/F&W
Locust Fork	Jefferson County Highway 61 (Maxine)	U. S. Highway 31	F&W
Locust Fork	U. S. Highway 31	County road between Hayden and County Line	PWS/F&W
Locust Fork	County road between Hayden and County Line	Its source	F&W
Mulberry Fork	Junction of Locust and Mulberry Forks	Burnt Cane Creek (9 miles below Cordova)	PWS/S/F&W
Mulberry Fork	Burnt Cane Creek (9 miles below Cordova)	Frog Ague Creek (Cordova)	PWS/F&W

<sup>1</sup>Applicable dissolved oxygen level below existing impoundments is 4.0 mg/l.

Stream	From	To	Classification
Mulberry Fork	Frog Ague Creek (Cordova)	Junction of Mulberry and Sipsev Forks	PWS/F&W
Mulberry Fork	Junction of Mulberry and Sipsev Forks	Its source	F&W
Sipsev Fork	Junction of Mulberry and Sipsev Forks	Lewis Smith Dam	PWS/F&W
Lake Lewis Smith on Sipsev Fork	Lewis Smith Dam	Three miles upstream from Lewis Smith Dam	PWS/S/F&W
Lake Lewis Smith on Sipsev Fork	Three miles upstream from Lewis Smith Dam	Reservoir limits	S/F&W
Sipsev Fork	Lake Lewis Smith	Sandy Creek	F&W
Sipsev Fork and tributaries	Sandy Creek	Its source	F&W <sup>3</sup>
Big Prairie Creek	Head of backwater above Demopolis Lock and Dam on WARRIOR RIVER	Its source	F&W
Cottonwood Creek	Big Prairie Creek	Its source	F&W
White Creek	WARRIOR RIVER	Its source	F&W
Big Brush Creek	WARRIOR RIVER	Its source	F&W
Colwell Creek	Big Brush Creek	Its source	F&W
Minter Creek	WARRIOR RIVER	Its source	F&W
Five Mile Creek	WARRIOR RIVER	Payne Lake in Talladega National Forest	F&W
Payne Lake in Talladega National Forest			S
Elliotts Creek	WARRIOR RIVER	Its source	F&W
Cypress Creek	WARRIOR RIVER	Its source	F&W

<sup>3</sup> The special designation of Outstanding National Resource Water applies to this segment.



Stream	From	To	Classification
North River	WARRIOR RIVER	City of Tuscaloosa's water supply reservoir dam	F&W
North River	City of Tuscaloosa's water supply reservoir dam	Binnion Creek	PWS/S
North River	Binnion Creek	Its source	F&W
Binnion Creek	North River	Its source	F&W
Cedar Creek	North River	Its source	F&W
Clear Creek	North River	Bugs Lake Dam	F&W
Clear Creek	Bugs Lake Dam	Its source	PWS
Hurricane Creek	WARRIOR RIVER	Its source	F&W
Yellow Creek	WARRIOR RIVER	City of Tuscaloosa's water supply reservoir dam	F&W
Yellow Creek	City of Tuscaloosa's water supply reservoir dam	Its source	PWS
Davis Creek	WARRIOR RIVER	Its source	F&W
Blue Creek	WARRIOR RIVER	Its source	F&W
Big Yellow Creek	WARRIOR RIVER	Its source	S/F&W
Valley Creek	WARRIOR RIVER	Blue Creek	F&W
Valley Creek	Blue Creek	Its source	LWF
Opossum Creek	Valley Creek	Its source	A&I
Village Creek	Locust Fork	Bayview Lake Dam	F&W
Village Creek	Bayview Lake Dam	Its source	LWF
Fivemile Creek	Locust Fork	Newfound Creek	F&W
Fivemile Creek	Newfound Creek	Ketona	A&I

Stream	From	To	Classification
Fivemile Creek	Ketona	Its source	F&W
Turkey Creek	Locust Fork	Its source	F&W
Cunningham Branch	Turkey Creek	Its source	F&W
Self Creek	Locust Fork	Town of Bradford's water supply intake	F&W
Self Creek	Town of Bradford's water supply intake	Its source	PWS
Gurley Creek	Self Creek	Its source	F&W
Little Warrior River	Locust Fork	Junction of Blackburn Fork and Calvert Prong	F&W
Calvert Prong	Little Warrior River	City of Oneonta's water supply intake	F&W
Calvert Prong	City of Oneonta's water supply intake	Its source	PWS
Blackburn Fork	Little Warrior River	Inland Lake Dam	F&W
Blackburn Fork	Inland Lake Dam	Its source	PWS/S
Chitwood Creek	Calvert Prong	Its source (junction with Mill and Cheney Branch)	F&W
Mill Creek	Chitwood Creek	Its source	F&W
Graves Creek	Locust Fork	Its source	F&W
Whippoorwill Creek	Locust Fork	Its source	F&W
Clear Creek	Locust Fork	Its source	F&W
Slab Creek	Locust Fork	Its source	F&W
Lost Creek	Mulberry Fork	Two miles upstream from Wolf Creek	F&W
Lost Creek	Two miles upstream from Wolf Creek	Cane Creek	PWS/F&W

Stream	From	To	Classification
Lost Creek	Cane Creek	Its source	F&W
Cane Creek (Oakman)	Lost Creek	Dixie Springs Road	F&W
Cane Creek (Oakman)	Dixie Springs Road	Alabama Highway 69	LWF
Cane Creek (Oakman)	Alabama Highway 69	Its source	F&W
Indian Creek	Lost Creek	Its source	F&W
Wolf Creek	Lost Creek	Its source	F&W
Burnt Cane Creek	Mulberry Fork	Its source	F&W
Cane Creek (Jasper)	Mulberry Fork	Town Creek	LWF
Cane Creek (Jasper)	Town Creek	Its source	F&W
Town Creek	Cane Creek	100 yards upstream of Southern Railway crossing (1.1 miles upstream of Cane Creek)	LWF
Town Creek	100 yards upstream of Southern Railway crossing (1.1 miles upstream of Cane Creek)	Its source	F&W
Blackwater Creek	Mulberry Fork	Its source	F&W
Mud Creek	Mulberry Fork	Its source	F&W
Broglan River	Mulberry Fork	Junction of Eightmile and Brindley Creeks	F&W
Brindley Creek	Broglan River	Its source	PWS
Eightmile Creek	Broglan River	Cullman water supply reservoir dam	F&W
Eightmile Creek	Cullman water supply reservoir dam	Its source	PWS

Stream	From	To	Classification
Pope Creek	Cullman water supply dam	Its source	PWS
Blue Springs Creek	Mulberry Fork	Its source	F&W
Warrior Creek	Mulberry Fork	Its source	F&W
Tibb Creek	Warrior Creek	Its source	F&W
Riley Maze Creek	Tibb Creek	Its source	F&W
Ryan Creek	Lake Lewis Smith	Its source	F&W
Crooked Creek	Lake Lewis Smith	Its source	F&W
Brushy Creek	Lake Lewis Smith (Sipsey Fork)	U.S. Highway 278	PWS/F&W
Brushy Creek	U.S. Highway 278	Its source	F&W
Clear Creek	Lake Lewis Smith	City of Haleyville water supply reservoir dam	F&W
Clear Creek	City of Haleyville water supply reservoir dam	Its source	PWS
Rock Creek	Lake Lewis Smith	Its source	F&W
Sandy Creek	Sipsey Fork	Its source	F&W
Curtis Mill Creek	Sandy Creek	Town of Double Springs water supply reservoir dam	F&W
Curtis Mill Creek	Town of Double Springs water supply reservoir dam	Its source	PWS

**Author:** James E. McIndoe

**Statutory Authority:** Code of Alabama 1975, §§22-22-9, 22-22A-5, 22-22A-6, 22-22A-8.

**History:** Adopted: May 5, 1967. **Amended:** June 19, 1967; April 1, 1970; October 16, 1972; September 17, 1973; May 30, 1977; August 29, 1977; December 19, 1977; February 4, 1981; April 5, 1982; December 11, 1985; March 26, 1986; August 26, 1988; March 2, 1990; April 3, 1991; August 1, 1991; April 2, 1992; May 28, 1992; February 1, 1993; September 23, 1993; August 29, 1994; May 30, 1997; July 14, 1999; September 7, 2000; January 12, 2001; June 28, 2002.

Enclosure 5

ENVIRONMENTAL MANAGEMENT COMMISSION  
RESOLUTION

WHEREAS the Alabama Department of Environmental Management gave notice of a public hearing on the proposed revisions to ADEM Admin. Code 335-6 of the Department's Water Quality Program Rules and Regulations in accordance with Code of Alabama 1975, §§ 22-22A-8 and 41-22-4; and

WHEREAS, a public hearing was held before a representative of the Alabama Department of Environmental Management designated by the Environmental Management Commission for the purpose of receiving data, views and arguments on the amendment of such proposed rules; and

WHEREAS, the Alabama Department of Environmental Management has reviewed the oral and written submissions introduced into the hearing record, and has prepared a concise statement of the principal reasons for and against the adoption of the proposed rules incorporating therein its reasons for the adoption of certain revisions to the proposed rules in response to oral and written submissions, such revisions, where appropriate, having been incorporated into the proposed rules attached hereto; and

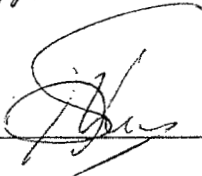
WHEREAS, the Environmental Management Commission has considered fully all oral and written submissions respecting the proposed amendments and the Reconciliation Statement prepared by the Alabama Department of Environmental Management.

NOW THEREFORE, pursuant to Code of Alabama 1975, §§ 22-22A-5, 22-22A-6, 22-22A-8, and 41-22-5, as duly appointed members of the Environmental Management Commission, we do hereby adopt and promulgate these revisions to Rules 335-6-10-.11/Water Quality Criteria Applicable to Specific Lakes and 335-6-11-.02/Use Classifications of the Department's Water Quality Program

administrative code attached hereto, to become effective thirty-five days after filing with the Alabama  
Legislative Reference Service.

IN WITNESS WHEREOF, we have affixed our signatures below on this 9th day of

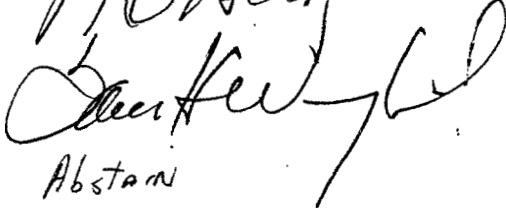
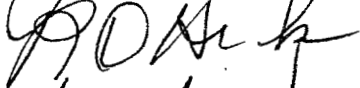
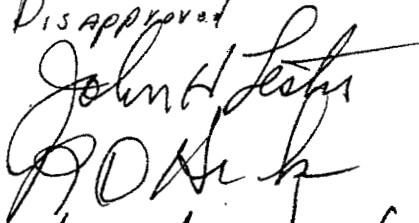
Approved



Kenneth A. Harish



Disapproved



Abstain



STATE OF ALABAMA

LEGISLATIVE COUNCIL

Jerry L. Bassett  
Secretary

Alabama State House, Suite 613  
11 South Union Street  
Montgomery, Alabama 36130-3550

Phone 334 242-7560  
FAX 334 242-4358

May 15, 2002

Mr. James Warr, Director  
Alabama Department of Environmental Management  
P. O. Box 301463  
Montgomery, Alabama 36130-1463

Dear Mr. Warr:

The Joint Committee on Administrative Regulation Review, at a meeting held on Wednesday, May 15, 2002, disapproved the proposed amendment of Rule 335-6-11-.02 certified to the Legislative Reference Service on April 11, 2002, and proposes an amendment to delete any changes to the status of Fivemile Creek in Jefferson County.

If the Commission agrees to the amendment and resubmits the Rule with the amendment, it will become effective upon resubmission.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jerry L. Bassett", with a long horizontal flourish extending to the right.

Jerry L. Bassett  
Secretary

JLB/cj  
cc: Speaker Pro Tempore Newton



Enclosure 7

ENVIRONMENTAL MANAGEMENT COMMISSION  
RESOLUTION

WHEREAS, the Alabama Department of Environmental Management gave notice of a public hearing on the proposed revisions to the Environmental Code AL 335-6-10-12, Implementation of the Antidegradation Policy of the Department's Water Quality Program Rules and Regulations in accordance with Code of Alabama 1975, §§ 22-22A-8 and 41-22-4; and

WHEREAS, a public hearing was held before a representative of the Alabama Department of Environmental Management designated by the Environmental Management Commission for the purpose of receiving data, views and arguments on the amendment of such proposed rules; and

WHEREAS, the Alabama Department of Environmental Management has reviewed the oral and written submissions introduced into the hearing record, and has prepared a concise statement of the principal reasons for and against the adoption of the proposed rules incorporating therein its reasons for the adoption of certain revisions to the proposed rules in response to oral and written submissions, such revisions, where appropriate, having been incorporated into the proposed rules attached hereto; and

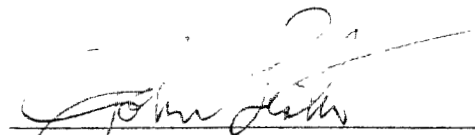
WHEREAS, the Environmental Management Commission has considered fully all oral and written submissions respecting the proposed amendments and the Reconciliation Statement prepared by the Alabama Department of Environmental Management.

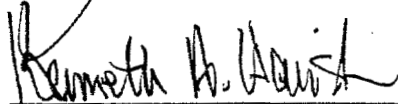
NOW THEREFORE, pursuant to Code of Alabama 1975, §§ 22-22A-5, 22-22A-6, 22-22A-8, and 41-22-5, as duly appointed members of the Environmental Management Commission, we do hereby adopt and promulgate these revisions to Rule 335-6-10-12, Implementation of the Antidegradation Policy of the Department's Water Quality Program administrative code attached hereto, to become effective thirty-five days after filing with the Alabama Legislative Reference Service.




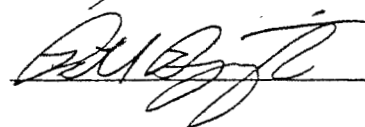
IN WITNESS WHEREOF, we have affixed our signatures below on this 25th day of June,

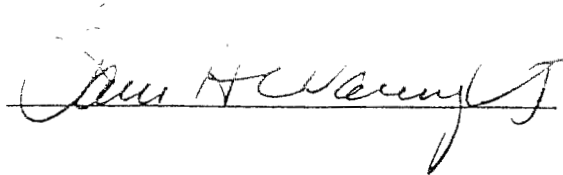
2002.

  
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ENVIRONMENTAL MANAGEMENT COMMISSION  
RESOLUTION

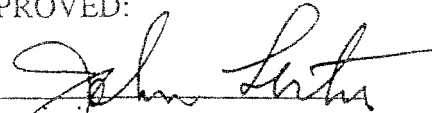
WHEREAS, the Joint Committee on Administrative Regulation Review (Legislative Council) disapproved the amendment of Ala. Admin. Code R. § 335-6-11-.02, adopted by the Environmental Management Commission (Commission) on April 9, 2002, and proposed that the Commission delete any change to the status of the water classification of Five Mile Creek; and

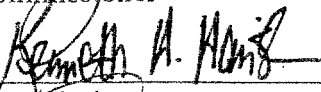
WHEREAS, the Commission has considered the Legislative Council's proposal that the Commission delete the change to the water classification of Five Mile Creek.

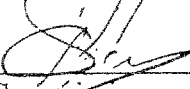
NOW THEREFORE, pursuant to Code of Alabama 1975, §§ 22-22A-5, 22-22A-6, 22-22A-8, and 41-22-5, as duly appointed members of the Commission, we do hereby amend the revisions to Ala. Admin. Code R. § 335-6-11-.02/Use Classifications of the Department's Water Quality Program administrative code to delete the change in status to the water classification of Five Mile Creek, thereby returning the water classification of Five Mile Creek to Agriculture and Industry, and resubmit the amended R. § 335-6-11-.02 to the Legislative Council for action.

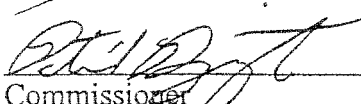
IN WITNESS WHEREOF, we have affixed our signatures below on this 25th day  
of June, 2002.

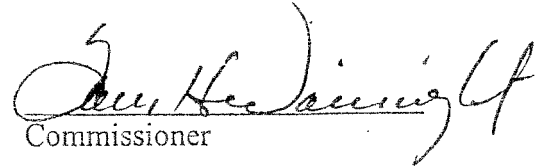
APPROVED:

  
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Commissioner

  
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Commissioner

DISAPPROVED:

\_\_\_\_\_  
Commissioner

\_\_\_\_\_  
Commissioner

\_\_\_\_\_  
Commissioner

Exhibit 7

HEARING RECORD  
AND  
RELATED DOCUMENTS

Proposed Adoption of  
Alabama Department of Environmental Management  
Administrative Code Division 335-6  
Water Quality Program Regulations  
Chapters 335-6-10-.11 and 335-6-11-.02

Hearing Date: February 19, 2002  
Record Closing Date: February 22, 2002

PART A

- ° Transcript of Testimony
- ° Written Submissions and Other Documentary
- ° Evidence (Exhibit A-1 through A-9)

PART B

- ° Proposed Revisions to Chapters 335-6-10-.11 and 335-6-11-.02 (Exhibit B-1)
- ° Summary of Reasons Supporting Adoption of Proposed Revisions (Exhibit B-2)

PART C

- ° Newspaper Proofs of Publication  
(Exhibits C-1 through C-4)
- ° Mailing List (Exhibit C-5)
- ° Proof of Compliance with Administrative Procedure Act (Exhibit C-6)

PART D

- ° Reconciliation Statement
- ° Draft Resolution and Revised Proposed Revisions

STATE OF ALABAMA  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
MONTGOMERY, ALABAMA

IN RE: PROPOSED AMENDMENTS TO  
DIVISION 6, CHAPTERS 10 AND 11  
WATER QUALITY PROGRAM REGULATIONS

\* \* \* \* \*

PROCEEDINGS, taken before the Honorable  
S. Shawn Sibley, Hearing Officer, at the Alabama  
Department of Environmental Management, 1400  
Coliseum Boulevard, Montgomery, Alabama, on  
Tuesday, February 19, 2002, commencing at  
approximately 10:04 a.m., and reported by Amanda  
C. Berkstresser, Court Reporter and Commissioner  
for the State of Alabama at Large.

\* \* \* \* \*

## APPEARANCES

## AS HEARING OFFICER:

Mr. S. Shawn Sibley  
Associate General Counsel  
ALABAMA DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT  
Legal Division  
1400 Coliseum Boulevard  
Montgomery, Alabama 36130

## ALSO PRESENT:

Mr. Lynn Sisk

\* \* \* \* \*

## EXHIBIT INDEX

## EXHIBIT NO.:

A-1	1/14/02 letter from Dale Baker, Utilities Board
A-2	Thomas Ivers' remarks
A-3	Village Creek submittals
A-4	Beryl Carrington's submittals
A-5	Comments of the Alabama Rivers Alliance and Ala LEAVS
B-1	Administrative Code
B-2	Summary of Reasons
C-1	Birmingham News notice
C-2	Huntsville Times notice
C-3	Mobile Register notice
C-4	Montgomery Advertiser notice

DUNN, KING & ASSOCIATES

Montgomery, Alabama

(334) 263-0261 or (800) 359-8001

1 (Exhibit Index continuing:)

2 C-5 List of addresses and  
3 Notice of Rulemaking

4 C-6 Affidavit of Jerry L. Bassett

5 \* \* \* \* \*

6 HEARING OFFICER: We're going to go  
7 ahead and get started. I'd like to welcome  
8 everybody here. My name is Shawn Sibley.  
9 I'm an attorney with the Alabama Department  
10 of Environmental Management; and I've been  
11 designated by James W. Warr, the director of  
12 the Department, to serve as the hearing  
13 officer today. And on behalf of Mr. Warr and  
14 ADEM, I would like to welcome each and every  
15 one of you here this morning to this hearing.

16 The subject of this hearing is the  
17 proposed amendments to Division 6, Chapters  
18 10 and 11, of the ADEM Administrative Code,  
19 Water Quality Program Regulations. Revisions  
20 to Division 6 are being proposed for the  
21 purpose of revising water quality criteria  
22 and establishing standards of quality in  
23 certain waters in the state.

1           This hearing is being conducted to  
2           provide the public an opportunity to present  
3           data, views, and arguments on the proposed  
4           amendments.

5           Notice of this date, time, place, and  
6           purpose of this hearing was published in *The*  
7           *Birmingham News*, the *Huntsville Times*, the  
8           *Mobile Press Register*, the *Montgomery*  
9           *Advertiser* on December 23rd, 2001. Copies of  
10          the certifications of these publications are  
11          submitted for the hearing record as Exhibits  
12          #C-1 through #C-4.

13          In addition, on December 17th, 2001, the  
14          Department caused the same notice to be sent  
15          to 1,104 individuals and organizations  
16          requesting advance notice of the rule  
17          changes. A listing of those individuals and  
18          organizations is marked and submitted as  
19          Exhibit #C-5.

20          An original copy of the proposed rules  
21          was filed with the administrative procedures  
22          division of the Legislative Reference Service  
23          on December 14th, 2001; and 32 copies were



1 furnished to the Joint Committee on  
2 Administrative Regulation Review on December  
3 28th, 2001. A copy of the notice was also  
4 published in the *Administrative Monthly*,  
5 Volume 20, Issue 3, on December 28th, 2001.  
6 These facts are attested by Jerry L. Bassett,  
7 the director of the Alabama Legislative  
8 Reference Service, by affidavit, which is  
9 submitted for the hearing record as  
10 Exhibit #C-6.

11 Copies of the proposed rules have been  
12 available for inspection by the public at  
13 ADEM field offices in Birmingham, Mobile,  
14 Decatur; ADEM offices in Montgomery;  
15 Southeast Alabama Regional Planning and  
16 Development Commission; at the East Alabama  
17 Regional Planning and Development Commission;  
18 and at the Alabama Tombigbee Rivers Planning  
19 and Development Commission. A copy of the  
20 proposed rules is submitted for the hearing  
21 record as Exhibit #B-1. A copy of the  
22 summary of the reasons supporting the  
23 adoption of the rules is submitted for the

1           hearing record as Exhibit #B-2.

2           Although the Department has given public  
3           notice of these rulemaking proceedings, to  
4           date, the Department has only received one  
5           written comment. And that's going to be  
6           marked as Exhibit #A-1. And it's a letter  
7           from the Utilities Board, City of Sylacauga.

8           Again, this hearing is being conducted  
9           to provide the public an opportunity to  
10          present data, views, questions, and arguments  
11          on the proposed rules. It is open to the  
12          public, and anyone wishing to present oral  
13          testimony or written statements may do so.  
14          Persons who have not previously advised the  
15          Hearing Officer of their intent to give oral  
16          testimony should complete a registration card  
17          and present it to the representative at the  
18          registration table outside.

19          All verbal and written comments received  
20          this morning and during the public notice  
21          period will become part of the hearing  
22          record. Information in the hearing record  
23          will be used in evaluating the proposed

1 rules.

2 The order of appearances of the persons  
3 giving oral testimony will be as follows:  
4 first the representatives of the Department  
5 of Environmental Management, then public  
6 officials, and then members of the public in  
7 the order they filed their registration  
8 cards.

9 Lengthy statements containing  
10 considerable technical or other significant  
11 data should be submitted for the record in  
12 writing. Summaries of the statements may be  
13 presented orally. All testimony and written  
14 statements should be as factual as possible  
15 and should address the subject of this  
16 hearing. Each person desiring to give oral  
17 testimony will have an opportunity to do so.  
18 Persons giving testimony should identify  
19 themselves and any organization they  
20 represent.

21 This hearing is not intended as a  
22 question-and-answer session, and persons  
23 giving testimony will not be subjected to

1       questioning by the public; however, they may  
2       be questioned by the Hearing Officer or by  
3       any other representative of the Department of  
4       Environmental Management to clarify points  
5       and develop a better understanding of the  
6       information being presented.

7       A final hearing record will include a  
8       transcript of the hearing today, all written  
9       submissions and exhibits, and a response by  
10      the Department to each relevant comment  
11      received by the Hearing Officer before five  
12      o'clock, February 22nd, 2002. Once complete,  
13      this record will be available for public  
14      inspection in the office of the Department of  
15      Environmental Management here in Montgomery.

16      I'm going to now call on Lynn Sisk, who  
17      is the chief of ADEM's water quality branch  
18      of the Water Division here at ADEM. And we  
19      will now proceed to the principal purpose of  
20      this morning's hearing, and that's the  
21      receipt of public comments. Let me just stop  
22      right there and go ahead and -- you go  
23      ahead.

1           MR. SISK: Good morning. I'm Lynn Sisk,  
2           chief of the water quality branch, Water  
3           Division, Alabama Department of Environmental  
4           Management. And I'd like to make a statement  
5           on behalf of the Department.

6           Water quality standards consist of two  
7           basic elements, water quality criteria and  
8           water use classifications, which are found in  
9           Chapters 335-6-10 and 335-6-11 of the  
10          Department's Administrative Code. The  
11          Department is proposing changes to each of  
12          these chapters, and this hearing is being  
13          held to receive comments on the subject  
14          changes.

15          Revisions proposed for Chapter 335-6-10  
16          involve Rule 10-.11, Water Quality Criteria  
17          Applicable to Specific Lakes. The revisions  
18          include the amendment of Rule 10-.11 to  
19          revise the nutrient criteria for Walter F.  
20          George Lake. The chlorophyll a criteria, as  
21          measured at the deepest point in the main  
22          river channel at the dam forebay, is being  
23          revised from 16 micrograms per liter to 15

1 micrograms per liter to be consistent with  
2 the criteria adopted previously by the State  
3 of Georgia for this interstate lake.

4 The amendment of Rule 10-.11 to  
5 establish nutrient criteria for Thurlow Lake,  
6 Yates Lake, and Lake Martin of the Tallapoosa  
7 River basin and Pickwick, Wilson, Wheeler,  
8 Guntersville, Cedar Creek, and Little Bear  
9 Creek Lakes of the Tennessee River basin.

10 The nutrient targets necessary to maintain  
11 and protect existing uses for these lakes are  
12 expressed as chlorophyll a criteria as  
13 represented by the mean of photic-zone  
14 composite chlorophyll a samples collected  
15 monthly during the growing season. The  
16 growing season is defined as April through  
17 October for each of the aforementioned lakes  
18 with the exception of Pickwick, Wilson,  
19 Wheeler, and Guntersville lakes, which have  
20 an April through September growing season.

21 The proposed chlorophyll a criteria for  
22 the subject lakes were developed based on  
23 water quality data collected by the

1 Department as part of the reservoir water  
2 quality monitoring program and the Tennessee  
3 Valley Authority as part of their reservoir  
4 vital signs monitoring program.

5 For Thurlow Lake, the proposed  
6 chlorophyll a criterion is five micrograms  
7 per liter as measured at the deepest point in  
8 the main river channel at the dam forebay.

9 For Yates Lake, the proposed chlorophyll  
10 a criterion is five micrograms per liter as  
11 measured at the deepest point in the main  
12 river channel at the dam forebay.

13 For Lake Martin, the proposed  
14 chlorophyll a criterion is five micrograms  
15 per liter as measured at the deepest point of  
16 the main river channel of the dam forebay,  
17 five micrograms per liter measured at the  
18 deepest point in the main river channel  
19 upstream of Blue Creek embayment, and five  
20 micrograms per liter as measured at the  
21 deepest point in the main creek channel  
22 upstream of Kowaliga Bridge.

23 For Pickwick, Wilson, Wheeler, and

1       Guntersville lakes, the proposed  
2       chlorophyll a criterion is 18 micrograms per  
3       liter as measured at the deepest point in the  
4       main river channel of the dam forebay.

5       For Cedar Creek and Little Bear Creek  
6       lakes, the proposed chlorophyll a criterion  
7       is eight micrograms per liter as measured at  
8       the deepest point in the main river channel  
9       at the dam forebay.

10       The revisions proposed for Chapter  
11       335-6-11 involve Rule 11-.02, Use  
12       Classifications, and include the addition of  
13       the Swimming and Other Whole Body  
14       Water-Contact Sports classification for the  
15       remaining two segments of Lay Lake on the  
16       Coosa River in Shelby, St. Clair, and  
17       Talladega Counties; the upgrade from  
18       agricultural and industrial water supply to  
19       fish and wildlife for Shirtee Creek in  
20       Talladega County; the upgrade from  
21       agricultural and industrial water supply to  
22       fish and wildlife for Pepperell Branch in Lee  
23       County; the upgrade from agricultural and



1 industrial water supply to fish and wildlife  
2 for a segment of Fivemile Creek in Jefferson  
3 County; the upgrade from agricultural and  
4 industrial water supply to fish and wildlife  
5 for a segment of Valley Creek in Jefferson  
6 County; the upgrade from agricultural and  
7 industrial water supply to limited warm water  
8 fishery for a segment of Valley Creek in  
9 Jefferson County; the upgrade from  
10 agricultural and industrial water supply to  
11 limited warm water fishery for a segment of  
12 Village Creek in Jefferson County. And other  
13 miscellaneous changes were made to clarify or  
14 correct segment names and boundaries.

15 Copies of the proposed revisions to  
16 10-.11 and 11-.02, summaries of reasons  
17 supporting the revisions and use  
18 attainability analyses, have been submitted  
19 by the Hearing Officer for the hearing  
20 record. The summaries of reasons provide the  
21 basis for each proposed change.

22 In closing, I'd like to reiterate that  
23 the purpose of this hearing is to receive

1 public input regarding the changes to water  
2 quality standards that have been proposed by  
3 the department. We appreciate your input and  
4 involvement in this process.

5 HEARING OFFICER: All right. At this  
6 point, we'll now proceed to the principal  
7 purpose of this morning's hearing. If you  
8 wish to make an oral comment or statement  
9 today and have not registered out front, if  
10 you could, please do so.

11 Again, if you have a lengthy written  
12 statement, I ask that your oral presentation  
13 be in the nature of a summary. I would ask  
14 each person making a statement to step up to  
15 the podium over here on the left and state  
16 your name, any interest or organization that  
17 you represent. And if you'll remember, that  
18 this hearing is being recorded by a court  
19 reporter and a transcript will be included  
20 for the public record.

21 I'm going to take these in alphabetical  
22 order. And the first person that signed up  
23 and indicated they wanted to make some

1           comments was Mr. Dick Bronson with Lake  
2           Watch. And, again, before we get started,  
3           just out of courtesy for the next person  
4           that's behind you speaking, if you could  
5           just, you know, limit your comments to, of  
6           course, the subject matter; but limit it just  
7           in consideration for the next person. Thank  
8           you.

9           MR. BRONSON: I'm Dick Bronson here  
10          representing Lake Watch of Lake Martin, and  
11          I'm here to voice strong support for the  
12          standards that ADEM is proposing. Long time  
13          over due. I think most would recognize  
14          that. And I know a lot of work has gone into  
15          preparing these standards.

16          I'm particularly supportive of the  
17          extremely low -- the lower threshold for the  
18          standards for Lake Martin. I think they're  
19          appropriate. They recognize, I believe, the  
20          standard -- five micrograms per liter is a  
21          recognition of the clean state of the lake at  
22          the current time, and it certainly gives a  
23          good target and a good challenge for those

1           who are working to keep the lake clean. So I  
2           applaud ADEM for this effort, statewide  
3           water, particularly for Lake Martin. And  
4           I -- Lynn, I want to particularly single out  
5           Chris Johnson, who has done a great job in  
6           informing the lay community around Lake  
7           Martin about the importance of these nutrient  
8           water quality standards.

9           Thank you for the opportunity to  
10          comment.

11          HEARING OFFICER: Thank you. Dr. Thomas  
12          Ivers.

13          DR. IVERS: Thank you. My name is Tom  
14          Ivers. I'm the founding president of Save  
15          Our Saugahatchee, Inc., known as SOS, in the  
16          Auburn area. We serve the counties of Lee,  
17          Macon, and Tallapoosa.

18          SOS was created five years ago on the  
19          basis of very deep concern in the community  
20          regarding the water quality status of the  
21          Saugahatchee Creek and the Pepperell Branch.  
22          It was almost five years ago that I spoke  
23          before this group arguing for the upgrade of

1 the Saugahatchee -- certain aspects of the  
2 Saugahatchee to fish and wildlife, and also  
3 the Pepperell Branch.

4 As it turned out, the Saugahatchee was  
5 upgraded, but Pepperell was not. The  
6 Pepperell has a -- is small but has a very  
7 undue influence on the Saugahatchee,  
8 disproportionately large. And it makes  
9 little sense to continue to allow it to  
10 degrade the larger stream.

11 WestPoint Stevens, once the largest  
12 polluter of Pepperell Branch and the  
13 Saugahatchee, has made significant changes to  
14 its operations, which have improved the  
15 quality of its effluent. SOS and WestPoint  
16 have maintained close contact and cordial  
17 relations; and we feel confident that when  
18 pending projects are completed, water quality  
19 for Pepperell Branch and the Saugahatchee  
20 will be enhanced even further.

21 At the present time, we at SOS are  
22 equally concerned about nonpoint source  
23 pollution, especially erosion and siltation

1       resulting from urban construction in the  
2       Auburn and Opelika communities and also, I  
3       might add, nutrient enrichment. Lee County  
4       is the fourth fastest growing county in  
5       Alabama and the 57th fastest in the U.S. We  
6       see a continuation of this problem, as well  
7       as increasingly significant nutrient  
8       enrichment from sewage facilities both in  
9       Auburn and Opelika which discharge directly  
10      to the Saugahatchee.

11       At the March 1997 hearing, I submitted  
12      for the record a document entitled, quote,  
13      Synopsis of Water Quality of the Saugahatchee  
14      Creek: 1979-1995, unquote, which showed  
15      alarming increases in total phosphorus and  
16      total inorganic nitrogen and conductivity. I  
17      feel confident those levels have risen even  
18      further since that time. It is a well-known  
19      fact the Saugahatchee is a major, if not the  
20      greatest, contributor of nitrogen and  
21      phosphorus to Yates Lake.

22       On September 11th, 2001, a rather  
23      poignant date, Florida Rock Industries, Inc.,

1 submitted to ADEM an application for a permit  
2 to establish a granite rock quarry near  
3 Loachapoka in Lee County. Aside from the  
4 many other probable negative effects on the  
5 environment, it is highly likely that this  
6 operation will even further degrade the water  
7 quality and decrease the quantity of water in  
8 the Saugahatchee Creek at the very time that  
9 we are discussing the improvement of the  
10 Pepperell Branch and Yates Lake. It would be  
11 highly inconsistent and not very good common  
12 sense for ADEM to approve this permit and  
13 undo the positive steps it is proposing.  
14 Therefore, I am advocating, strongly  
15 advocating that ADEM deny this permit.

16 We believe that the costs associated  
17 with upgrading the Pepperell Branch and Yates  
18 Lake can be borne without substantial and  
19 widespread economic and social impact.

20 Indeed, bringing the two water bodies up to  
21 fish and wildlife status would result in a  
22 comprehensive, consistent designation which  
23 would ultimately result in a clean water body

1       which future generations can be proud of.  
2       The real question is can we afford not to  
3       upgrade the Saugahatchee watershed. Those  
4       future generations are depending on our  
5       positive decision.

6       I also fully support the upgrading of  
7       water quality standards for all the other  
8       proposed water bodies. It is long overdue.  
9       ADEM needs to do the right thing to protect  
10      the people of Alabama rather than pander to  
11      industry.

12      HEARING OFFICER: Thank you.

13      Mr. Steve Oswalt.

14      MR. OSWALT: I believe my comments have  
15      already been addressed.

16      HEARING OFFICER: Okay. So at this  
17      time, Mr. Oswalt, you don't desire to speak  
18      any further?

19      MR. OSWALT: No, sir. Just about  
20      everything I wanted has already been --

21      HEARING OFFICER: Thank you.

22      Mr. Jeff Martin.

23      MR. MARTIN: Good morning. My name is



1           Jeff Martin, and I'm the executive director  
2           of the Alabama League of Environmental Action  
3           Voters. I am pleased to submit these  
4           comments on the proposed rule changes on  
5           behalf of both Ala LEAVS and the Alabama  
6           Rivers Alliance. In general, we are pleased  
7           with the direction in which the Department is  
8           headed with the adoption of nutrient criteria  
9           and the upgrade of several use  
10          classifications. We appreciate the efforts  
11          that have gone into developing these new  
12          criteria and the Department's commitment to  
13          meet the 30-year-old goals of the Clean Water  
14          Act by detecting more waters for recreation  
15          and protection of aquatic life.

16               We strongly support ADEM's development  
17          of nutrient criteria for the reservoirs of  
18          Tennessee River, the Tallapoosa River, and  
19          the Chattahoochee River. We do, however,  
20          request that further justification for the  
21          criteria be made available to the public.

22               The rationale for the criteria that was  
23          available on ADEM's website indicated that

1       the values chosen are indicative of existing  
2       chlorophyll a levels. The criteria  
3       recommended by EPA for lakes and reservoirs  
4       in this region are generally lower than those  
5       proposed by ADEM. And while we understand  
6       some of the Department's concerns with the  
7       EPA recommendations, we feel that the  
8       discrepancy warrants further justification.

9       Specifically, we request information and  
10      data that supports the Department's claims  
11      that nutrient levels sustained at the current  
12      levels will not lead to the degradation of  
13      the reservoirs or downstream waters. We  
14      would also request justification for setting  
15      criteria for the chlorophyll a as measured at  
16      the deepest point of the reservoir. We would  
17      expect more photosynthetic activity near the  
18      surface of the water to cause higher levels  
19      of chlorophyll a near the surface. We ask  
20      that ADEM provide justification that concerns  
21      measured at the deepest point will be  
22      indicative of -- protective against algal  
23      blooms on the surface.

1           We fully support ADEM's proposal to  
2           upgrade the use classification of Lay Lake  
3           such that the entire lake is protected for  
4           swimming. We appreciate the Department's  
5           commitment to ensuring the lake is safe. We  
6           also fully support the decision to upgrade  
7           Pepperell Branch, Shirtee Creek, Fivemile  
8           Creek, and a portion of the Valley Creek to  
9           the fish and wildlife classification.

10           We look forward to supporting the  
11           Department's protection and restoration  
12           efforts to ensure that this higher standard  
13           will continue to meet in these waters.

14           Portions of the Valley Creek and Village  
15           Creek were upgraded to the new  
16           classification, limited warm water fishery.  
17           While we welcome the small step forward in  
18           the protection of these creeks, we remind the  
19           Department that this classification does not  
20           adequately meet the goals of the Clean Water  
21           Act. Likewise, there are still a few waters  
22           that are classified as agricultural and  
23           industrial waters that we must continue to

1 attempt to restore. The Alabama Rivers  
2 Alliance and Ala LEAVS will continue to try  
3 to work hard with ADEM to ensure that Valley  
4 Creek, Village Creek, and all the waters of  
5 the state are afforded protections to support  
6 healthy communities and meet the requirements  
7 of the law.

8 Again, we applaud the progress  
9 represented by many of the rules proposed by  
10 the Department and look forward to further  
11 discussion of the details. Thank you for the  
12 opportunity.

13 HEARING OFFICER: Mr. Mark Martin,  
14 Village Creek.

15 MR. MARTIN: I'm waiting for the rest of  
16 my group to show up. Could you hold me for  
17 last?

18 HEARING OFFICER: Sure. Dr. Mable  
19 Anderson.

20 MR. MARTIN: Same group.

21 HEARING OFFICER: Kathy Nichols with Lay  
22 Lake. Is that Homeowners, Boat Owners  
23 Association?

1 MS. NICHOLS: Yes. Homeowners, Boat  
2 Owners Association, Incorporated. Thank you.  
3 That was a long one.

4 I'm here representing Lay Lake  
5 Homeowners and Boat Owners Association,  
6 Incorporated. To date, we have 528 household  
7 members. The association covers members from  
8 St. Clair County, Coosa County, Talladega  
9 County, Shelby County, and Chilton County.  
10 The two areas under consideration for  
11 amendment -- recently, there has been a  
12 subdivision added for 250 more homes in  
13 Talladega County; and, also, a park is  
14 opening in Shelby County, in the Harpersville  
15 area, with boat launch and swimming in the  
16 near future. It is an absolute must that we  
17 get this area classified for swimming and  
18 whole body water-contact sports, as I'm up  
19 and down this river often and see people  
20 swimming in that area, and have been for four  
21 years now that I've lived there.

22 So we really appreciate this amendment  
23 and hope you'll go for it. And I thank you

1           for your time.

2           HEARING OFFICER: Thank you. Sue  
3           Robertson, Alabama Water Watch.

4           MS. ROBERTSON: I'm Sue Robertson. I'm  
5           vice president of the board for the Alabama  
6           Watch Association -- Water Watch  
7           Association. And I am speaking as the  
8           board's representative at this hearing.

9           The association has long supported the  
10          establishment of nutrient standards for  
11          Alabama's waters as well as the increase in  
12          use classifications. The association  
13          supports the nutrient -- these nutrient  
14          standards that you proposed, and they also  
15          are in support of the use classification  
16          proposal.

17          We strongly urge ADEM to continue in  
18          establishing nutrient standards for the  
19          remaining water bodies, as well as to  
20          continue to the use upgrades so that all  
21          citizens of the state will have the same  
22          protection at the highest level. Thank you.

23          HEARING OFFICER: Thank you.

1 Ms. Beryl Carrington with Saint Mary's  
2 School, Valley Creek.

3 MS. CARRINGTON: I'd like to come after  
4 Village Creek.

5 HEARING OFFICER: Mr. John Meehan,  
6 Village Creek.

7 MR. MEEHAN: Good morning. I'm John  
8 Meehan, director for the Village Creek  
9 Environmental Justice Society. I come here  
10 to speak on -- to support the use  
11 classification. This is not the first time  
12 I've spoken. This is about my third time to  
13 be down here, because we feel that this  
14 agency needs to recognize people.

15 We're a whole body of a watershed, a  
16 44-mile watershed that is in Birmingham. We  
17 feel that this board needs to start doing its  
18 job to recognize the people who have come  
19 here. And I feel that you're not doing your  
20 job. And I urge you -- I'm not going to be  
21 as loud like I was last time, but I urge you  
22 to please adopt this water classification.  
23 We're out here fighting like mad to get

1 something done. You know, we're not -- you  
2 know, we're not fish; we're human beings.  
3 And that's what we should be. You know,  
4 we're all in this together, but we are not  
5 fish. So I urge you to please adopt this  
6 water classification for residential and  
7 human life.

8 Residential and human life. I'm going  
9 to mention it twice. You know, we don't  
10 need -- we don't need to be coming down here  
11 from time to time to time. You know, that  
12 takes a lot of our time. And I appreciate  
13 the representative people from Saint Mary's  
14 School and all who have taken their time to  
15 come out, but it's time to start going to  
16 business and start doing -- ADEM needs to  
17 start paying more attention to the people's  
18 needs. So I urge you to please adopt  
19 residential and human life classification.

20 Thank you.

21 HEARING OFFICER: Thank you.

22 Mr. David Tidwell, Village Creek  
23 Society.



1 MR. TIDWELL: Yeah. I'd like to come  
2 after Dr. Anderson, please.

3 HEARING OFFICER: Okay. Ms. Carrington,  
4 are you ready?

5 DR. ANDERSON: She wants to wait. May  
6 we come now?

7 HEARING OFFICER: Okay. Dr. Anderson.

8 DR. ANDERSON: Yes. Good morning. My  
9 name is Dr. Mable B. Anderson, and I'm the  
10 president of the Village Creek Human and  
11 Environmental Justice Society and the Village  
12 Creek Keeper.

13 Sirs and madam, this is the third time  
14 that I have presented to ADEM in Montgomery  
15 to listen and respond to the requests of the  
16 284,000 --

17 HEARING OFFICER: Dr. Anderson, I'm  
18 sorry to interrupt you, but I was just given  
19 a copy of several documents attached  
20 together. Do you wish this to be included  
21 with your oral presentation?

22 DR. ANDERSON: Yes. I'm going to give  
23 you a copy. I just have this -- I just have

1 a little bit. I'm going to introduce  
2 Mr. Martin. He's going to make the report.

3 HEARING OFFICER: Okay. What I'm going  
4 to do is introduce this into the record as  
5 Exhibit #A-3. I'm sorry to interrupt you.

6 DR. ANDERSON: And I'm going to give you  
7 a copy of this. I want you to introduce this  
8 into the record, too; but I want to read it,  
9 though.

10 HEARING OFFICER: Okay. We'll consider  
11 it part of the same exhibit.

12 DR. ANDERSON: Yeah. The part -- that's  
13 good.

14 HEARING OFFICER: Okay. I'm sorry. Go  
15 ahead.

16 DR. ANDERSON: That's okay. That's all  
17 right.

18 This is the third time that I have  
19 presented to ADEM in Montgomery to listen and  
20 respond to the requests of the 284,715 -- did  
21 I say that right -- residents who live in the  
22 six communities through which the creek  
23 flows, the mayor of the city of Birmingham,

1 the city council, Alabama state senators and  
2 representatives, 11 neighborhood presidents,  
3 10 community presidents, community church  
4 groups, and concerned friends of Village  
5 Creek, to adopt a widely used classification  
6 called residential and human life from  
7 Bayview Lake to its source.

8 Am I talking loud enough?

9 COURT REPORTER: Just a little bit  
10 louder.

11 DR. ANDERSON: Okay. I represent the  
12 International River Alliance as a Village  
13 Creek keeper. I presented in December 1999  
14 and July 2000, at which time a warm water  
15 fishery classification was approved rather  
16 than a residential and human life  
17 classification. I would like to acknowledge  
18 the three at-the-table meetings with you,  
19 with EPA, and other leaders mentioned above.

20 Village Creek runs 44 miles in Jefferson  
21 County, Alabama, beginning in Roebuck, which  
22 has the endangered Watercrest Darter fish.  
23 It then goes through East Lake and through

1 North Birmingham; Ensley, where I was born,  
2 South Pratt, down to Bayview Lake and ends up  
3 in Warrior River.

4 Now, what are the benefits of a  
5 residential and human life water  
6 classification? One, there is economic  
7 development for the community as well as for  
8 businesses. Two, the health and welfare  
9 improvement that would be helping welfare  
10 improvement for children, for families, and  
11 for people. Third, there will be  
12 recreational development. And most of all,  
13 fourth, there will be educational  
14 development, including outdoor classrooms and  
15 educational tours. Now, these are just some  
16 of the benefits.

17 I am a native of Birmingham, Alabama,  
18 but I had to obtain my higher education in  
19 Michigan and Pennsylvania. In my training,  
20 we came to know that people learn what they  
21 live. If they live with criticism, they  
22 learn to condemn. If they live with  
23 ridicule, they learn to be shy or hopeless.

1 If they live with encouragement, they learn  
2 confidence. If they live with fairness, they  
3 learn justice. If they live with approval,  
4 they learn to like themselves. I ask you  
5 today what is ADEM and Village Creek Human  
6 and Environmental Justice Society helping our  
7 communities, our children, our citizens, to  
8 learn to live with?

9 Attorney Martin, the secretary/treasurer  
10 for Village Creek Human and Environmental  
11 Justice Society, will make our presentation  
12 today. Thank you. And God bless America.

13 HEARING OFFICER: Thank you.

14 MR. MARTIN: I'm Mark Martin. And as  
15 Dr. Anderson said, I'm secretary/treasurer  
16 for Village Creek Human and Environmental  
17 Justice Society. We have filed a written  
18 paper, and I'll summarize it as best I can.

19 Village Creek Human and Environmental  
20 Justice Society opposes the warm water  
21 fishery classification for Village Creek. We  
22 welcome the change, but the change doesn't go  
23 far enough. It continues to support the use

1 of Village Creek as an open sewer, and it  
2 fails to provide adequate protection for the  
3 residents who live along the creek.

4 We feel that Village Creek should be  
5 classified to protect its residential uses,  
6 not to support municipal and industrial  
7 discharges. We have previously proposed a  
8 water use classification called residential  
9 and human life, as set out in Appendix A of  
10 the paper and attached to the letter. We  
11 propose that Village Creek, from Bayview Lake  
12 to its source, be reclassified under this new  
13 classification. We're preparing a petition  
14 for rulemaking, which we intend to file in  
15 the near future, to propose this adoption of  
16 this classification. And we cannot accept or  
17 agree with any use classification which falls  
18 short of this -- of this standard.

19 We feel the limited warm water fishery  
20 classification continues to support the use  
21 of Village Creek as an open sewer for the  
22 disposal of municipal industrial wastes.

23 Alabama ADEM Administrative Code Rule

1 335-6-11-.01(2) states in part, Use  
2 classifications apply water quality criteria  
3 adopted for particular uses based on existing  
4 utilization, uses reasonably expected in the  
5 future, and those uses not now possible  
6 because of correctable pollution, but which  
7 could be made if the effects of pollution  
8 were controlled or eliminated.

9 The uses set out in the limited warm  
10 water fishery are the same as the uses set  
11 out in agricultural and industrial water  
12 supply for the months of May through  
13 November. The uses of the water under the  
14 limited warm water fishery classification is  
15 no different than agricultural and industrial  
16 during those months.

17 We contend those uses do not correctly  
18 describe the present utilization of the  
19 waters of Village Creek. First of all,  
20 there's no present usage of this stream for  
21 agricultural irrigation, livestock watering,  
22 or industrial cooling and process water  
23 supplies. We have been unable to find any

1 industry -- any industrial usage of these  
2 waters for a water supply.

3 The agricultural and industrial water  
4 supply classification is intended to be a  
5 supply use classification, not a disposal use  
6 classification. Code of Federal Regulations  
7 40 Section 131.10(a) says, In no case shall a  
8 state adopt waste transport or waste  
9 assimilation as a designated use for any  
10 waters of the United States.

11 ADEM's use attainability analysis for  
12 Village Creek, December of 2001, attempts to  
13 establish that obtaining a higher use of  
14 Village Creek is not feasible because of the  
15 levels of dissolved oxygen, nutrients, and  
16 fecal coliform. This approach is short-sided  
17 and continues to illegally sanction the use  
18 of Village Creek as an open sewer for the  
19 disposal of municipal and industrial waste.

20 The use attainability analysis cites  
21 overflows from the Jefferson County sewage  
22 treatment system as a significant source of  
23 nutrients and other pollutants in the Village



1 Creek. The use attainability analysis cites  
2 leaking sewers and other septic tanks coupled  
3 with shallow groundwater as the primary cause  
4 of fecal coliform in Village Creek. These  
5 are both correctable pollution which can be  
6 controlled or eliminated within the meaning  
7 of ADEM Administrative Code Rule  
8 335-6-11-.01(2).

9 Jefferson County is in the process of  
10 rehabilitating the sewer collection system  
11 and installing additional treatment  
12 facilities for what water flows in the  
13 Birmingham area. These improvements will  
14 have a significant effect on warm water -- on  
15 water quality standards in Village Creek and  
16 should correct the problem with nutrients and  
17 fecal coliform. If this does not correct the  
18 problem, then the source of these pollutants  
19 must be identified and corrected. They  
20 cannot be allowed to continue.

21 The use attainability analysis states  
22 that poor conditions that exist downstream of  
23 the Jefferson County Village Creek wastewater

1 treatment plant would result in the facility  
2 most likely needing to spend additional, if  
3 not considerable resources, to modify the  
4 current treatment system in order to meet  
5 in-stream dissolved oxygen levels of 5.0  
6 milligrams per liter.

7 A use classification should not and  
8 cannot be based on the concern that a  
9 polluter would have to spend considerable  
10 amounts of resources in order to correct a  
11 pollution problem. Jefferson County should  
12 be required to fix the dissolved oxygen  
13 problem.

14 The problem cited with dissolved oxygen  
15 in the upper reaches of Village Creek also  
16 seem to be based on discharges by current  
17 permit holders. These are also correctable  
18 problems which can be controlled or  
19 eliminated within the meaning of the ADEM  
20 Code. We contend that the proposed use  
21 classification of Village Creek to warm water  
22 fishery would be an unacceptable continuation  
23 of the use of Village Creek as an open sewer

1           for the disposal of municipal and industrial  
2           wastes.

3           We think the best use of Village Creek  
4           is its current use as residential and human  
5           life. A large number of people reside, live,  
6           and work along the shores of this creek.  
7           They use this creek in a passive manner,  
8           which is just as important and deserving of  
9           protection as the uses listed in the  
10          regulations. The new western area Maxi High  
11          School is on the banks of the creek and can  
12          be used as a classroom for children learning  
13          about the environment and about the creek  
14          rather than as an eyesore, source of  
15          pollution, and distraction to the children.

16          During times of flooding, the residents  
17          come in contact with the waters of the  
18          creek. They must wade in the overflown  
19          waters, including waters and residue from  
20          their houses and possessions. Pollutants in  
21          the water at that time contaminate the  
22          citizens themselves as well as their houses  
23          and their furniture and belongings.

1           We feel that the creek needs protection  
2           that's given by the swimming and other whole  
3           body water-contact sports classification, and  
4           we've incorporated that protection into the  
5           residential and human life classification  
6           that we intend to introduce.

7           I will -- I'll cut it a little shorter  
8           and say the limited warm water fishery  
9           classification does not give significant  
10          protection from bacteria contamination than  
11          the present classification of agricultural  
12          and industrial does. We feel that the fish  
13          and wildlife classification would also not  
14          give adequate protection to the creek because  
15          that classification anticipates incidental  
16          water contact and recreation during June  
17          through September and gives greater  
18          protection during those months; however, the  
19          residents of Village Creek come in contact  
20          with the water year round, especially during  
21          times of flooding, which is generally in the  
22          late winter and spring.

23          We feel that residential and human life

1 protection gives this year-round protection  
2 that is required. We have the support of  
3 members of the Legislature, the mayor of the  
4 city of Birmingham, members of the Birmingham  
5 city council. And we feel it's time we had  
6 the support of ADEM for this classification.

7 And that's all I have to say. Thank you  
8 very much.

9 HEARING OFFICER: Thank you.

10 DR. ANDERSON: Now, you have submitted a  
11 copy of the presentations that were there  
12 before you with signatures of persons who  
13 have asked for the residential and human  
14 life. We also have submitted a copy of the  
15 proposed petition that is going to be  
16 presented to you with adequate documentation  
17 in the very near future.

18 HEARING OFFICER: And, Mr. Martin and  
19 Dr. Anderson, I'm including both of your  
20 comments as -- and I'm labeling them as  
21 Exhibit #A-3. In other words, what you've  
22 submitted and then what Mr. Martin has  
23 submitted, they'll both be considered #A-3.

1 DR. ANDERSON: All right.

2 HEARING OFFICER: Thank you.

3 DR. ANDERSON: Thank you so much.

4 HEARING OFFICER: Mr. David Tidwell,  
5 Village Creek Society.

6 MR. TIDWELL: Good morning. My name is  
7 David Tidwell. I'm the vice president,  
8 director of development for the Village Creek  
9 Human and Environmental Justice Society,  
10 Village Creek keeper.

11 I'd like to say that at this time  
12 yesterday, I was taking photographs of and  
13 talking with people that were fishing along  
14 Village Creek. Village Creek watershed has  
15 tremendous historical significance to the  
16 city of Birmingham. Not only at one time did  
17 it serve as the original drinking water  
18 source for the city of Birmingham, but in the  
19 late 1800s, it became the cooling water  
20 source for many of the steel mills that  
21 located in the city, actually responsible for  
22 Birmingham becoming a world player in the  
23 steel industry. So the historical

1           significance alone is tremendous that this  
2           watershed has for the city of Birmingham and  
3           the state of Alabama.

4           I would like to say that the residential  
5           and human life classification is the only  
6           classification that would adequately fit the  
7           watershed because not only during times of  
8           flooding does Village Creek impact people's  
9           lives, but every day. As I witnessed  
10          yesterday, it impacts people's lives. So  
11          it's of the utmost importance this  
12          classification be considered and that the  
13          Village Creek waters be upgraded to  
14          residential and human life. Thank you.

15          HEARING OFFICER: Thank you. Ms. Beryl  
16          Carrington, Saint Mary's School, Valley  
17          Creek.

18          Ms. Carrington, you've just handed me a  
19          series of -- is it two letters? Is that  
20          correct?

21          MS. CARRINGTON: Yes, sir.

22          HEARING OFFICER: I'm going to mark  
23          these for the record as Exhibit #A-4.

1 MS. CARRINGTON: Okay. That's fine.  
2 Thank you.

3 I'm Beryl Carrington. I'm an educator  
4 in the city of Fairfield at Saint Mary's  
5 Catholic School, and I am in support of the  
6 Village Creek societies and their efforts for  
7 trying to get the classification change to  
8 reflect Village Creek's actual use.

9 We all know that the present  
10 classification is classified as agricultural  
11 and industrial, and we know that the creek  
12 runs from -- through Roebuck, through several  
13 residences, and ends up into the Warrior  
14 River; but on the way on that journey, it  
15 goes through residential areas. While this  
16 is true for Village Creek, Valley Creek also  
17 transfers through residential areas, with  
18 Fairfield having a residential population of  
19 about 13,000. And, therefore, this is the  
20 reason I support the classification change  
21 for Valley Creek as well.

22 You all know that the outdoors is the  
23 first classroom; therefore, Saint Mary's



1 Catholic School is embarking on building an  
2 outdoor classroom area that will further the  
3 education of our students. Many students  
4 today are not familiar with what actually  
5 goes on on the outside, and that's why our  
6 classroom is being centered around Valley  
7 Creek because of the close proximity of the  
8 water to the school.

9 I have here with me today some of my 4-H  
10 students who will be involved with water  
11 testing along with my myself. I became a  
12 certified water tester over the summer. And  
13 I am trying to interest my students in the  
14 things that will infect -- that will affect  
15 the environment and bringing them here today,  
16 as I have spoken with them about ADEM. They  
17 have been learning about ADEM and about the  
18 water laws and the rules in the state of  
19 Alabama. So they're here today to get a  
20 firsthand experience of the things that's  
21 happening with ADEM.

22 Therefore, I am expecting your support  
23 in getting the classification changed to read

1 residential and human life instead of the  
2 present classification because it would be of  
3 a great benefit for my students and for the  
4 residents as well. And I would like to thank  
5 you today.

6 And I also have -- you have there with  
7 you support from our assistant principal, who  
8 was unable to come today. She wanted to  
9 present. But, however, she lives right next  
10 to Valley Creek, that portion that runs by  
11 the school. And as an effort with the  
12 residents, there were some residents that  
13 were not aware, rather, that Valley Creek ran  
14 through the city and they had covered the  
15 portion up by the school. After inquiring  
16 and finding out that that part of Valley  
17 Creek did still exist there, with the effort  
18 of the public works department, they're right  
19 now clearing Valley Creek, taking the dirt  
20 out where they had stopped the flow.

21 And, also, as I talked with the mayor's  
22 office, Mayor Larry Langford of Fairfield,  
23 and I talked with the other people in the

1 public works department, I did find out that  
2 they are also going to center a park around  
3 Valley Creek, the part that flows across  
4 Myron Massey and Jerry D. Coleman, that they  
5 would be situated there as well. And that's  
6 why the change, the classification change, at  
7 this point in time would be essential for the  
8 residents of Fairfield as well as the  
9 students at Saint Mary's Catholic School.

10 And I want to thank you for your time.

11 HEARING OFFICER: Thank you.

12 A little bit of housekeeping here.

13 Dr. Ivers who had spoke, I believe was one of  
14 the first folks to comment, he had submitted  
15 to us either a letter or a synopsis of his  
16 comments. I'm going to submit that to the  
17 record as Exhibit #A-2.

18 There's several of you that had signed  
19 up outside and had indicated that you did not  
20 want to comment. Is there anyone here that  
21 has changed their mind and decided they want  
22 to comment although having signed up outside  
23 that they did not?

1 (No response)

2 HEARING OFFICER: There's no response.

3 Has everyone that's in the room today, have  
4 they -- have y'all decided that you wanted to  
5 comment as much as you possibly can?

6 (No response)

7 HEARING OFFICER: Is there anyone else  
8 that would like to comment that may have not  
9 signed up outside?

10 (No response)

11 HEARING OFFICER: Okay. We'll go ahead  
12 and move on to conclude the hearing. Let me  
13 remind you that the hearing record will be  
14 open till five o'clock p.m. on February 22nd,  
15 2002. Submittals must be received at ADEM's  
16 Montgomery offices by that time. After  
17 consideration of the oral and written  
18 comments, ADEM will make a determination  
19 regarding the possible revisions to the  
20 proposed rules and prepare a response to all  
21 the relative comments received.

22 When a final decision has been made,  
23 ADEM will forward the final draft of the

1        proposed rules as they may be revised, the  
2        hearing record and, if conflicting views are  
3        submitted, a concise statement of the  
4        principal reasons for and against the  
5        adoption of the proposed rules and the  
6        reasons for overruling any considerations  
7        urged against their adoption, to the  
8        Environmental Management Commission for its  
9        consideration and possible adoption.

10        I'd like to thank everyone for their  
11        attendance and participation this morning.  
12        This hearing is now adjourned. Thank you.

13                    (The proceedings concluded at  
14                    10:54 a.m.)

15                    \* \* \* \* \*

16                    END OF PROCEEDINGS

17                    \* \* \* \* \*

## REPORTER'S CERTIFICATE

STATE OF ALABAMA

ELMORE COUNTY

I, Amanda C. Berkstresser, Court Reporter and Commissioner for the State of Alabama at Large, hereby certify that on Tuesday, February 19, 2002, I reported the PROCEEDINGS OF A PUBLIC HEARING in the matter of the foregoing cause, and that pages 3 through 49 contain a true and accurate transcription of said proceedings.

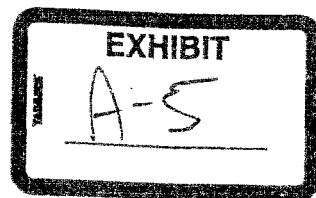
I further certify that I am neither kin nor of counsel to the parties to said cause, nor in any manner interested in the results thereof.

This 18th day of March, 2002.



AMANDA C. BERKSTRESSER,  
Court Reporter  
Commissioner for the  
State of Alabama at Large

MY COMMISSION EXPIRES: 9/8/04



## **Comments of the Alabama Rivers Alliance and Alabama League of Environmental Action Voters**

### *Proposed Changes to Rules 335-6-10 and 335-6-11*

February 19, 2002

Good morning. My name is Jeff Martin and I am executive director of Alabama League of Environmental Action Voters, .... I am pleased to submit these comments on the proposed rule changes on behalf of both AlaLEAVs and the Alabama Rivers Alliance. \The Alabama Rivers Alliance is a river and watershed conservation organization working statewide in Alabama and throughout the Mobile Basin and the watersheds that drain into and out of Alabama.

In general, we are pleased with the direction in which the Department is headed with the adoption of nutrient criteria and upgrade of several use classifications. We appreciate the efforts that have gone into developing these new criteria and the Department's commitment to meeting the 30 year old goals of the Clean Water Act by protecting more waters for recreation and protection of aquatic life.

#### *Nutrient Criteria*

We strongly support ADEM's development of nutrient criteria for the reservoirs of the Tennessee River, the Tallapoosa River, and the Chattahoochee River. We do, however, request that further justification for the criteria be made available to the public. The rationale for the criteria that was available on ADEM's website indicated that the values chosen are indicative of existing chlorophyll-a levels. The criteria recommended by EPA for lakes and reservoirs in this region are generally lower than those proposed by ADEM, and while we understand some of the Department's concerns with the EPA recommendations, we feel that the discrepancy warrants further justification. Specifically, we request information and data that supports the Department's claim that the nutrient levels sustained at the current levels will not lead to degradation of the reservoirs or downstream waters.

We also request justification for setting criteria for chlorophyll-a as measured at the deepest point in the reservoir. We would expect more photosynthetic activity nearer the surface of the water to cause higher levels of chlorophyll-a near the surface. We ask that ADEM provide justification that concentrations measured at the deepest point will be indicative of and protective against algal blooms on the surface.

#### *Use Classifications*

We fully support ADEM's proposal to upgrade the use classification of Lay Lake such that the entire lake is protected for swimming. We appreciate the Department's commitment to ensuring that the lake is safe.

We also fully support the decision to upgrade Pepperell Branch, Shirtee Creek, Fivemile Creek, and a portion of Valley Creek to the Fish and Wildlife classification. We look forward to

supporting the Department's protection and restoration efforts to ensure that this higher standard will continue to be met in these waters.

Portions of Valley Creek and Village Creek were upgraded to the new classification, Limited Warmwater Fishery. While we welcome the small step forward in the protection of these creeks, we remind the Department that this classification does not adequately meet the goals of the Clean Water Act. Likewise, there are still a few waters that are classified as Agricultural and Industrial waters, that we must continue to attempt to restore. The Alabama Rivers Alliance and AlaLEAVs will continue to try to work with ADEM to ensure that Valley Creek, Village Creek, and all the waters of the state are afforded protections that support healthy communities and meet the requirements of the law.

Again, we applaud the progress represented by many of the rules proposed by the Department and look forward to further discussion of the details. Thank you for the opportunity to comment.





## United States Department of the Interior

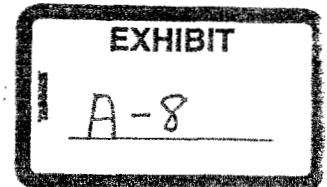
FISH AND WILDLIFE SERVICE

P. O. Drawer 1190  
Daphne, Alabama 36526  
February 19, 2002

IN REPLY REFER TO:  
02-0408

File: EC 26.5.1

ADEM Hearing Officer  
Office of the General Counsel  
Alabama Department of Environmental Management  
P.O. Box 301463  
Montgomery, Alabama 36130-1463



Dear Sir:

We appreciate the opportunity to assist with the revision of water quality standards for Alabama. Proposed revisions, as presented in the December 23, 2001 Notice of Rulemaking (Notice), apply to Chapter 335-6-10 (Rule No. 335-6-10-.11, Water Quality Criteria Applicable to Specific Lakes) and Chapter 335-6-11-.02 (Rule No. 335-6-11-.02, Use Classifications) of the Alabama Department of Environmental Management (ADEM) Administrative Code (Code). Our comments are submitted under the provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Fish & Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 1531 et seq.), and the Clean Water Act (PL 92-500, as amended; 33 U.S.C. 1251 et seq.). Consistent with the Alabama Water Pollution Control Act, our comments are proposed to enhance ADEM's ability to protect, maintain, and improve water quality for the propagation of wildlife, fish, and aquatic life, including threatened and endangered species. Section 335-6-11-.01 of the ADEM Code provides for a formal review of the entire water quality standards package, including use classifications, every three years. We assume that the proposed revisions are part of the formal triennial review process. We, therefore, provide recommendations on other revisions to Chapter 335-6-11-.02 in addition to those provided under the Notice. For your convenience, we present our recommendations by hydrographic basins in which specific water bodies occur.

Cahaba River Basin

The use classification of Buck Creek from Cahaba Valley Creek to Shelby County Road 44 is currently designated as Limited Warm Water Fishery (LWF). Buck Creek is tributary to the Cahaba River. The use classification of the Cahaba River in this reach has been designated as Outstanding Alabama Water (OAW). Additionally, the Cahaba River basin supports at least ten federally-listed threatened and endangered species. Section 335-6-11-.01(1) of the ADEM Code provides that use classifications are based on existing utilization, uses reasonably expected in the future, and uses which are attainable if the effects of pollution are controlled or eliminated. In view of ongoing water quality enhancement efforts under the Alabama Clean Water Partnership, water quality conditions consistent with the Fish and Wildlife (F&W) use classification are reasonably attainable for this stream reach as adequate pollution control measures are

implemented. Such a designation will not only protect water quality conditions inherent in the OAW designation but will also enhance efforts to protect and recover federally-protected species. We, therefore, recommend that the LWF use classification currently designated for Buck Creek be replaced with the full Fish and Wildlife (F&W) use classification.

#### Mobile River-Mobile Bay Basin

The use classifications for Three Mile Creek from the Mobile River to its source and the Industrial Canal from Three Mile Creek to its source are currently designated as Agriculture and Industrial (A&I). The A&I classification provides minimal protection of fish and wildlife. For example, this designation does not expressly prohibit toxic materials in toxic amounts and permits dissolved oxygen concentrations that are not protective of aquatic life. Mobile Bay and other areas potentially affected by degraded water quality from Three Mile Creek and the Industrial Canal provide habitat for threatened Gulf sturgeon (*Acipenser oxyrinchus desotoi*) and endangered Alabama redbelly turtle (*Pseudmys alabamensis*). Again, in view of ongoing efforts to improve water quality we believe that water-quality conditions consistent with the F&W use classification are attainable. We, therefore, recommend that F&W be designated as the use classification for Three Mile Creek and the Industrial Canal. Such a designation will further efforts to protect water quality in Mobile Bay and will enhance protection of federally-listed species.

#### Tennessee River Basin

The range of the threatened slackwater darter (*Etheostoma boschungii*) in Alabama is restricted to a limited number of tributaries of the Tennessee River in northwestern Alabama. Designated critical habitat for this species in Alabama is restricted to permanent and intermittent streams with flowing water from December to June which are tributary to Cypress Creek upstream from the junction of Burcham Creek (excluding Threet Creek and its tributaries). Criteria for the OAW use classifications provided in ADEM Code 335-6-10.09(1) include waters with exceptional ecological significance. The limited range of this unique species coupled with the occurrence of designated critical habitat for this species within the State constitute exceptional ecological significance. As such, we recommend that OAW be designated as the use classification for Cypress Creek from the City of Florence Water Treatment Plant to the Tennessee State Line. This designation will assist in the protection of water quality and habitat integrity within this drainage basin. Such protections are essential for the persistence of this species.

#### Warrior River Basin

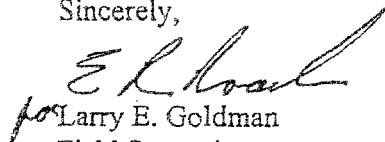
The Notice includes the proposal to change the classification for portions of Valley Creek and Village Creek in the Warrior River drainage from A&I to LWF. Both Valley Creek and Village Creek historically supported the threatened flattened musk turtle (*Sternotherus depressus*) and possibly the Black Warrior waterdog (*Necturus alabamensis*), a candidate species for federal protection. While the reclassification of the beneficial uses to LWF is technically an upgrade, this beneficial use designation provides limited protection of water quality and aquatic life. Again, in view of ongoing water quality enhancement efforts under the Alabama Clean Water Partnership, water quality conditions consistent with the Fish and Wildlife (F&W) use classification are reasonably attainable in these stream segments as adequate pollution control

measures are implemented. Such a designation will assist in effort to recover flattened musk turtle and to preclude listing of Black Warrior waterdog. We, therefore, recommend that F&W be designated as a use classification for both Valley and Village Creeks.

Turkey Creek and the lower reaches of Dry and Beaver Creeks provide the only known habitat for the endangered vermilion darter (*Etheostoma chermocki*). Turkey Creek is truly a unique and irreplaceable water body with high ecological significance. Failure to provide adequate protection of water and habitat quality in Turkey Creek will result in the extinction of this species. As such, Turkey Creek fulfills this criteria for designation as OAW. We, therefore, recommend that Turkey Creek from the Locust Fork to its source be designated as an OAW.

We appreciate the opportunity to assist in this revision of water quality standards for Alabama. Please contact Peter Tuttle or Elizabeth Langston at (251) 441-5181 if you have questions regarding this matter.

Sincerely,

  
for Larry E. Goldman  
Field Supervisor

cc:

Administrator, Alabama Department of Environmental Management, Montgomery, Alabama  
Regional Administrator, Environmental Protection Agency, Atlanta, Georgia

**U.S. FISH AND WILDLIFE SERVICE****DAPHNE FIELD OFFICE**

**P.O. Drawer 1190  
Daphne, Alabama 36526**

**Phone: (251) 441-5181**

**Fax: (251) 441-6222**

**To:** Ena Missildine  
ADEM Permits and Services Division  
Montgomery, Alabama

**Date:** 2/22/02  
**Time:** 3:30 PM  
**Fax:** 334-271-7950

**From:** Peter Tuttle  
FWS, Daphne

**Subject:** FWS comments for revisions to Alabama Water Quality Standards

**Pages (including transmittal sheet):** 4

**Comments:**

Thanks Ena, a hard copy will follow.

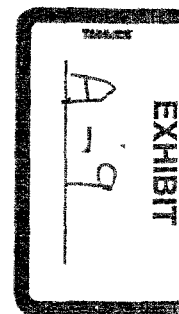
Peter





**CH2MHILL**

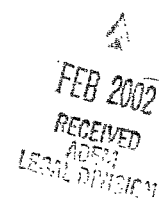
CH2M HILL  
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February 22, 2002

141848.A0.ZZ

ADEM Hearing Officer  
Office of General Counsel  
Alabama Department of Environmental Management  
P.O. Box 301463  
Montgomery, AL 36130-1463



Subject: Notice of Rulemaking-ADEM Rule No. 335-6-11-.02

To Whom It May Concern:

On behalf of Sloss Industries, Birmingham, Alabama, I am submitting herein comments regarding ADEM's proposed rulemaking as noted above, which was placed for public notice on December 23, 2001. These comments focus on ADEM's proposed upgrade of Five Mile Creek in Birmingham from the Agricultural and Industrial Water Supply (A&I) to the Fish and Wildlife (F&W) Classification.

Sloss Industries discharges wastewater from its manufacturing operations to Five Mile Creek under National Pollutant Discharge Elimination System (NPDES) Permit AL0003247. As such, Sloss' permit limitations will be affected by the classification of Five Mile Creek.

ADEM previously requested information regarding the effluent treatment and cost effects of the upgrade on Sloss. A technical memorandum that presented CH2M HILL's analysis of alternatives to meet a possible upgrade to Limited Warmwater Fishery (LWF) or F&W was provided to ADEM on November 30, 2001. As we understand it, ADEM reviewed this information. In addition, we understand that comparative U.S. Environmental Protection Agency (EPA) data regarding treatment control costs, and sales and revenue data for Walter Industries (of which Sloss Industries is a subsidiary), also were reviewed. Using this information, ADEM concluded that the cost of pollution controls to Sloss Industries to meet F&W limits could be passed on to Walter Industries and U.S. Pipe (which buys foundry coke from Sloss Industries). There were a number of substantive errors in this technical and financial analysis.

The attached revised technical memorandum has been updated to reflect a variety of new and different information that highlights the errors in EPA's and ADEM's assessments. Modifications include the following:

- The expected NPDES limits for stream classifications have been updated as recommended by ADEM. This update does not change the conclusions regarding the costs required to upgrade.
- At ADEM's request, the description of process and end-of-pipe treatment alternatives has been revised to better explain the two scenarios for this alternative. The first scenario is to upgrade the existing coke/chemical biological pretreatment facility (DSN001B) to a level to allow the final effluent (DSN001) to meet effluent limitations. A second scenario, to add an additional new effluent polishing facility to the final effluent pond (DSN001), also is described. One of these treatment approaches would be required to meet either LWF or F&W limits.

An additional financial analysis has been prepared in accordance with EPA's *Economic Guidance for Water Quality Standards-Workbook*, which is the correct methodology for use in assessing the cost effects of water quality upgrades. The following summarizes the changes and their effects on the analysis of whether an upgrade is appropriate for Five Mile Creek:

1. A section describing the parameters of concern and associated effects on the ability to comply with the chronic toxicity limit for either LWF or F&W also is included. Process monitoring data upstream of Sloss Industries indicate that dissolved solids, including chlorides and sulfates, may present a significant issue in achieving chronic effluent toxicity limitations for either LWF or F&W classifications. EPA's cost estimate was based on treatment technologies focused on cyanide for meeting chronic toxicity limitations. Because of EPA's failure to include the removal of salt for toxicity control, its economic analysis significantly understates Sloss' cost of compliance. In addition, Sloss' cost of compliance with these chronic toxicity limitations, as outlined in the attached memorandum, may be understated because of the uncertainty as to whether total dissolved solids (TDS) removal alone will allow Sloss to meet the limitations.
2. The relationship between Sloss Industries and Walter Industries has been clarified. Although Sloss is a wholly owned subsidiary of Walter Industries, as an independent operating entity, Sloss is solely responsible for its own environmental costs and liabilities. Walter Industries cannot be responsible for these costs; thus, the appropriate economic comparison is against Sloss Industries' revenues. When this proper comparison is made, it is clear that the burden from upgrading is greater than EPA's guidelines, outlined in the *Guidance for Water Quality Standards-Workbook*, would consider acceptable.

ADEM Hearing Officer

Page 3

February 22, 2002

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3. The relationship between Sloss Industries and U.S. Pipe has been clarified. Although U.S. Pipe is also a wholly owned subsidiary of Walter Industries, it purchases foundry coke from other sources. If Sloss Industries were forced to raise the prices for foundry coke to cover pollution control costs, the price increase would be significant. Currently, there is no legal obligation for U.S. Pipe to purchase Sloss coke on a long-term basis. Thus, the effects on Sloss were understated in EPA's assessment.
4. A section evaluating the economic effects on Sloss Industries also has been added. This information was developed using EPA's *Economic Guidance for Water Quality Standards-Workbook*. Using the worksheets in Chapter 3 of this guidance document, a Profit Test was performed to measure the effect on Sloss Industries' earnings if additional pollution control were to be required. This Profit Test clearly shows that compliance with LWF or F&W limits would pose a significant financial burden, in excess of the burden that EPA considers acceptable for upgrade of streams.

Because the economic burden on Sloss is in excess of EPA's guidelines for consideration of an upgrade, Sloss requests that ADEM not upgrade Five Mile Creek from its present classification of A&I.

Please do not hesitate to contact me if you have any questions.

Sincerely,

CH2M HILL



J. P. Martin, P.E.  
Project Manager

mgm02-CR2/050.doc  
Enclosures

- c: E. B. McClain/Sloss (w/enc.)  
Charles Jones/Sloss (w/enc.)  
Joseph Turner/Sloss (w/enc.)

## Revised Sloss Industries' Alternatives Review

TO: Sloss Industries  
FROM: CH2M HILL  
DATE: February 22, 2002

### Background

Sloss Industries discharges treated process-related wastewater and storm water to Five Mile Creek under National Pollutant Discharge Elimination System (NPDES) permit AL0003247. Currently, Five Mile Creek is classified under Alabama Water Quality Standard 335-6-.11 as an Agricultural and Industrial (A&I) water supply. The Alabama Department of Environmental Management (ADEM) is considering upgrading Five Mile Creek to the Fish and Wildlife (F&W) classification or the Limited Warmwater Fisheries (LWF) classification. Should this occur, Sloss Industries will be forced to upgrade its wastewater facilities to meet the more stringent limits, which would be required under either classification.

The technical and economic feasibility of wastewater treatment alternatives required to meet the new limits was evaluated in November 2001. This alternatives review was documented, as the original form of this memorandum, dated November 30, 2001. This information and the associated tables showing Sloss Industries' projected costs to comply with A&I, LWF, and F&W limits were provided to ADEM for use in its consideration in determining the water quality classification for Five Mile Creek.

On the basis of the U.S. Environmental Protection Agency's (EPA's) economic analysis and a comparison of those costs to Walter Industries (of which Sloss Industries is a subsidiary), and to U.S. Pipe (another Walter Industries subsidiary), EPA and ADEM concluded the following:

"... although Sloss' net revenues and sales are not sufficient to cover potential annual control costs of \$1.89 million, these costs represent 0.4% of the net sales and revenue of U.S. Pipe in 2000, and 0.1% of the net sales and revenue of Walter Industries in the same year. Based on this preliminary information including the vertical linkage between U.S. Pipe and Sloss, it appears that the cost of pollution controls could be passed through to these entities (U.S. Pipe or Walter Industries) which could easily absorb the costs."

This revised memorandum provides further clarification regarding the technical and economic burden to Sloss Industries, based on two primary factors:

1. Compliance with the chronic toxicity limit for LWF or F&W classifications requires additional treatment technology to treat salts, which was not addressed by EPA's estimates.



2. Although Sloss is a wholly owned subsidiary of Walter Industries, Sloss, as an independent operating entity, is solely responsible for its own environmental costs and liabilities. Walter Industries cannot be responsible for these costs; thus, the appropriate comparison is against Sloss Industries' revenues.

## Alternatives Technical Feasibility Analysis

The objective of the preliminary alternatives assessment was to assess alternatives to the present outfall location and wastewater treatment units that will allow Sloss to meet NPDES permit conditions should the stream remain as A&I, or be upgraded to LWF or F&W. The projected effluent limits for each of these stream classifications are presented below. Parameters of concern for Sloss Industries are described next, followed by a description of each of the considered alternatives.

### Projected Effluent Limits

If Five Mile Creek is upgraded, Sloss' NPDES permit would include more stringent effluent limits. ADEM also has proposed more stringent effluent limits for permit renewal under the A&I stream classification. Parameters that have the potential to exceed the current effluent limitations are listed below:

**TABLE 1**  
Estimated Sloss Industries NPDES Limits for Various Stream Classifications

Parameter	Existing Limits		A&I Limits		LWF Limits		F&W Limits	
	Dec-Apr	May-Nov	Dec-Apr	May-Nov	Dec-Apr	May-Nov	Dec-Apr	May-Nov
Daily Max CBOD <sub>5</sub>	None	None	548	162	353	162	353	83
Monthly Avg CBOD <sub>5</sub>	None	None	365	108	235	108	235	55
Daily Max NH <sub>3</sub> -N	12 mg/L	12 mg/L	183	50.25	183	50.25	183	49.5
Monthly Avg NH <sub>3</sub> -N	None	None	55.36	33.5	55.36	33.5	55.36	33
Daily Max TKN	None	None	348	100.5	348	100.5	348	99
Monthly Avg TKN	None	None	232	67	232	67	232	66
Daily Max CN	1.120		2.078		1.038		1.038	
Monthly Avg CN	None		1.039		0.246		0.246	
Daily Max Benzo(a)pyrene	0.226		0.022		0.022		0.022	
Monthly Avg Benzo(a)pyrene	None		0.011		0.011		0.011	
Acute Toxicity, %IWC	46%		79%		79%		79%	

TABLE 1  
Estimated Sloss Industries NPDES Limits for Various Stream Classifications

Parameter	Existing Limits		A&I Limits		LWF Limits		F&W Limits	
	Dec-Apr	May-Nov	Dec-Apr	May-Nov	Dec-Apr	May-Nov	Dec-Apr	May-Nov
Chronic Toxicity, %IWC	N/A		N/A		69%		79%	

Notes:

All parameters are lb/day unless noted.

A&I = Agricultural and Industrial Water Supply

LWF = Limited Warmwater Fishery

F&W = Fish and Wildlife

CBOD<sub>5</sub> = Carbonaceous 5-day biochemical oxygen demand

NH<sub>3</sub>-N = Ammonia-nitrogen

mg/L = Milligrams per liter

TKN = Total Kjeldahl nitrogen

CN = Cyanide

TSS = Total suspended solids

N/A = Not applicable

## Parameters of Concern

On the basis of process knowledge, the parameters of concern for Sloss Industries are the following:

- **Cyanide**—LWF and F&W limits are significantly lower than the current or proposed A&I based effluent limitations. Based on effluent data, Sloss will be unable to comply with these limits and anticipates the need for additional treatment of cyanide to meet the limits associated with either LWF or F&W. To ensure compliance with this parameter, as well as with the chronic toxicity limits (see below), cyanide precipitation as Prussian Blue using ferrous sulfate followed by effluent media filtration is anticipated.
- **Benzo(a)pyrene**—The proposed permit limit for benzo(a)pyrene is significantly lower than that for any of the proposed stream classifications. Therefore, additional treatment (effluent filtration) will be required.
- **Chronic Toxicity, %IWC**—Chronic toxicity limits, established only for LWF and F&W classifications, are of potential concern. The available effluent toxicity test results for *Ceriodaphnia dubia* and *Pimephales promelas* (Fathead minnow) taken from upstream of Sloss Industries DSN 001 discharge point indicates IC25 values of 23.5 percent and 12 percent, respectively, versus LWF and F&W limitations of 69 percent and 79 percent. Our data also indicate that TDS values at DSN 001 average about 425 milligrams per liter (mg/L). It is apparent that Sloss will be unable to meet the LWF/F&W, chronic toxicity-based limitation. Although we have not completed a toxicity reduction evaluation, and such an evaluation would require a significant investment of time and money to complete, our experience indicates that the levels of salts in the effluent will strongly influence the effluent toxicity. The removal of salts is likely to be required to meet a chronic toxicity-based limitation. As a result, the technology assessment includes salt removal to achieve compliance with the chronic toxicity limitation. It is possible that achieving compliance with this limitation will require an even greater level of treatment;

however, based on our experience, salt removal will be required as a base level of treatment.

## **Alternatives Discussion**

The alternatives presented below were defined by ADEM in preliminary discussions regarding feasible alternatives to meet possible revised water quality-based permit limits.

### **Land Application of Treated Effluent**

Land application of treated effluent typically is evaluated as an alternative to surface water discharges when insufficient surface water is available for assimilation of the treated wastewater. Although adequate surface water is available, this alternative was evaluated and was deemed a non-viable alternative. This alternative is not technically viable for a variety of reasons:

- Land application typically is accomplished on land, which is gently sloped, to allow infiltration of wastewater into the subsurface. The hilly terrain in the vicinity of Sloss is not conducive to land application.
- In addition to the sloping issues, the shallow bedrock in the vicinity of Birmingham likewise will not allow infiltration to readily occur.

### **Pretreatment and Discharge to Publicly Owned Treatment Plant**

Sloss has considered the possibility of discharging to the local publicly owned treatment plant (POTW), the Jefferson County Five Mile Creek Wastewater Treatment Plant (WWTP). Jefferson County has stated that an indirect discharge from Sloss would be regulated according to the County's pretreatment program, and has stated that it is not amenable to connecting the Sloss effluent to the County system. The County has an up-front connection fee based on flow, and then charges monthly user fees based on discharge volume and wastewater concentrations. Estimated connection fees are \$1,400,000 for Outfall 001b (0.5 million gallons per day [mgd]), and \$18,300,000 for Outfall 001 (5.8 mgd). Estimated annual user fees would be approximately \$400,000 for Outfall 001b and \$5,100,000 for Outfall 001. Additional capital and operating costs would be required for effluent conveyance to the Jefferson County collection system. The capacity of the Jefferson County system to accept a low-strength wastewater with a flow of almost 6 mgd is unknown, but it is highly unlikely that this capacity exists. Capital improvements to the Sloss biological treatment facility (BTF) would be required to comply with the County's cyanide pretreatment limit. On the basis of connection and discharge fees, uncertainties about the available POTW capacity, and Jefferson County's stated objections to accepting Sloss' wastewater, discharge to the POTW is not considered to be feasible for Sloss.

### **Outfall Relocation**

Five Mile Creek is the only receiving stream in the vicinity of Sloss Industries. Streams with larger flows are located across ridges in other drainage basins, or approximately 34 miles downstream of Sloss at the Black Warrior River. Therefore, relocating the Sloss outfall to a larger receiving stream is not feasible.

## Process and End-of-Pipe Treatment Upgrade Alternatives

Additional wastewater treatment requirements are highly dependent on the final stream classification. The modifications that would be needed to meet LWF and F&W limits are significantly greater than those needed to meet A&I limits. Part of this is due to an increased level of technology, specifically the addition of reverse osmosis membranes. The other contributing factor is that compliance with LWF and F&W limits will require further control and treatment of discharges that currently are not handled by the existing WWTP.

**A&I Limits.** Compliance with the proposed A&I limits will require WWTP modifications to improve cyanide and benzo(a)pyrene removal in the biological treatment facility (001b), and additional best management practices (BMPs) to control nitrogen and solids loads to the effluent polishing pond. The polishing pond (001) provides a high-quality effluent with typical values including carbonaceous 5-day biochemical oxygen demand (CBOD<sub>5</sub>) less than 5 mg/L and total suspended solids (TSS) less than 15 mg/L.

Proposed biological treatment facility upgrades include adding mixers to the aeration basins to reduce heat loss during cold weather operations, cyanide precipitation as Prussian Blue using ferrous sulfate, and effluent media filtration. Effluent filtration will remove cyanide precipitate. Filtration also is expected to reduce effluent benzo(a)pyrene concentrations, because it has a low solubility (0.003 mg/L) in water. Additional BMPs will be implemented in the coke and chemical plant to reduce the potential for spills or storm water runoff from areas handling organic- and nitrogen-bearing streams. Elevated solids and nitrogen levels in the polishing pond are infrequent and appear to be related to spills, storm events, area cleanups, and other non-routine activities.

**LWF Limits.** Compliance with the proposed LWF limits will require the WWTP modifications proposed for the A&I limits, plus effluent polishing to comply with the chronic toxicity limit. One of the primary concerns is the potential in-stream waste concentration (IWC) for the Chronic Toxicity Biomonitoring. Sloss will not be in compliance with a 69 percent IWC without significant additional treatment. Sloss currently is providing a high degree of treatment to its wastewater, and produces low levels of 5-day biochemical oxygen demand (BOD<sub>5</sub>) and nitrogen in the effluent; however, it is likely that meeting the effluent toxicity limits under an LWF classification would require removal of dissolved solids in the effluent. Prior to this process, ultrafiltration will be needed to remove solids and materials, which would clog the TDS removal process.

The major processes used to remove dissolved solids include reverse osmosis (RO), electrodialysis, distillation, and ion exchange. Of these processes, RO is the most cost-effective process for the removal of dissolved solids. Thus, RO, along with ultrafiltration, would be the major processes required. This process would include the following equipment:

- Low-pressure booster pumps
- Acid/caustic feed system
- Scale inhibitor feed system
- Cartridge filter
- Cleaning system
- High-pressure feed pumps

- Ultrafiltration membranes
- RO membranes
- Miscellaneous piping
- Electrical and instrumentation system

In addition, a significant cost associated with removal of the dissolved solids is the need to dispose of the waste brine solution from the RO unit. This solution is assumed to be discharged to the Jefferson County POTW under an in-direct discharge permit, and is subject to negotiation with the County. Brine would have to be sent to an offsite, commercial treatment system if the County will not accept the waste stream, and costs for this option will be significant.

**F&W Limits.** Compliance with the proposed F&W limits will require the WWTP modifications proposed for the A&I limits, plus effluent polishing proposed for the LWF limits to comply with the chronic toxicity limit. Aeration system upgrades in the BTF to improve nitrogen removal also are provided for this alternative. One of the primary concerns is the potential IWC for the chronic toxicity limitation. Sloss will not be in compliance with a 79 percent IWC without significant additional treatment.

Replacing the existing mechanical surface aerators with a diffused aeration system is proposed to reduce aeration basin heat loss during winter months. Aeration basin temperatures can drop to 45 degrees Fahrenheit (°F) or lower during periods of cold weather. These low temperatures result in reduced ammonia and BOD<sub>5</sub> removal rates in the BTF. Converting the aeration basins to a diffused aeration system would increase the winter basin temperatures by 10 to 15 °F, and would provide improved BTF performance.

## Economic Analysis

Upgrading of the WWTP (Process and End-of-Pipe Treatment Upgrade Alternative) is the only technically feasible alternative. An economic analysis was performed of the capital and operating costs associated with the modifications that would be required.

### Estimated Capital and Operating Costs

Table 2 presents the estimated capital and operating costs for the WWTP modifications associated with the three potential stream classifications. Two potential scenarios to meet LWF and F&W classifications are shown. The first is to upgrade the existing coke/chemical biological pretreatment facility (DSN 001B) to a level that will allow the final effluent (DSN 001) to meet effluent limitations. The second scenario is to perform salt removal at the total facility discharge point—DSN 001. These discharge points can be seen on the facility wastewater flow diagram in Attachment 1. It should be noted that there is potential uncertainty in the ability of salt removal at DSN 001B achieving permit limitations, as there are salts being contributed to the effluent from DSN 001A as well as DSN 001B; costs for treatment at DSN 001B are thus for comparative purpose, but until adequate toxicity reduction studies have been completed, it cannot be said with certainty where treatment will be required.

These rough order-of-magnitude (ROM) cost estimates have been prepared to assess the economic viability of the treatment alternative and to allow a relative comparison of

alternative treatment location. Costs are based on cost curves and historical project cost information. The actual project costs will vary from these estimates and will depend on actual labor and material costs, competitive market conditions, final project scope, schedule, and other variables.

**TABLE 2**  
Estimated Capital and Annual Operating Costs

Stream Classification	Scenario	Capital & Construction	Annual O&M
Agricultural & Industrial	Upgrade existing BTF	\$2,810,000	\$400,000
Limited Warmwater Fishery	Upgrade existing BTF	\$6,800,000	\$1,100,000
	Add Treatment at DSN 001	\$18,900,000	\$5,090,000
Fish & Wildlife	Upgrade existing BTF	\$8,200,000	\$1,100,000
	Add Treatment at DSN 001	\$20,000,000	\$5,140,000

Notes:

O&M = Operation and maintenance

BTF = Biological treatment facility

WWTP = Wastewater treatment plant

## Economic Evaluation

Using these estimated costs, EPA worksheets taken from the *Economic Guidance for Water Quality Standards-Workbook* have been completed (Attachment 2, Economic Worksheets). Using these worksheets, a Profit Test was performed with and without the cost of added controls. This Profit Test, also described in the Workbook, measures the effect on the discharger's earnings if additional pollution control is required:

$$\text{Profit Test} = \frac{\text{Earnings Before Taxes}}{\text{Revenues}}$$

For Sloss Industries, the following data are applicable for CY2001 and indicates that Sloss Industries is only marginally profitable as is:

$$\begin{aligned} \text{Profit Test (Without Controls)} &= \frac{\$201,950}{\$62,366,093} \\ &= + 0.0033 = + 0.3\% \end{aligned}$$

The annualized capital and operating costs using a 10 percent interest financing rate over a 10-year period were then calculated. The finance rate is based on Sloss Industries expected loan rate. Ten years is used based on the EPA Workbook. Table 3 presents the annualized cost for the LWF and F&W alternatives determined using Worksheet G, which is expected to be between \$2,200,000 and \$8,175,000, depending on which treatment alternative is selected.

**TABLE 3**  
Annualized Costs for Pollution Control Options

Stream Classification	Scenario	Total Annual Cost
Limited Warmwater Fishery	Upgrade existing BTF	\$2,206,669
	Add Treatment at DSN 001	\$8,175,888
Fish & Wildlife	Upgrade existing BTF	\$2,434,512
	Add Treatment at DSN 001	\$8,354,908
Notes: BTF = Biological treatment facility WWTP = Wastewater treatment plant		

Assuming the best-case scenario financially—i.e. upgrade of the existing biological pretreatment facility to meet LWF limits—the profit rate for Sloss Industries would be as follows:

$$\begin{aligned}
 \text{Profit Test (With Controls)} &= \frac{\text{Earnings Before Taxes with Control Costs}}{\text{Revenues}} \\
 &= \frac{(\$201,950 - \$2,200,000)}{\$62,366,093} \\
 &= -0.032 = -3.0\%
 \end{aligned}$$

This test, which is described in the Workbook as the single best indicator to be used in determining the financial effect of additional pollution control equipment, clearly indicates that Sloss Industries would no longer be profitable, and total shutdown or the closing of a production line would be likely. Section 1.1 of the EPA Guidance document states that economic considerations can be taken into account if the applicant, in this case Sloss Industries, demonstrates that important economic development would be prevented. Sloss Industries currently employs 400 full-time staff who would be affected were Sloss Industries to shut down.

## Conclusion

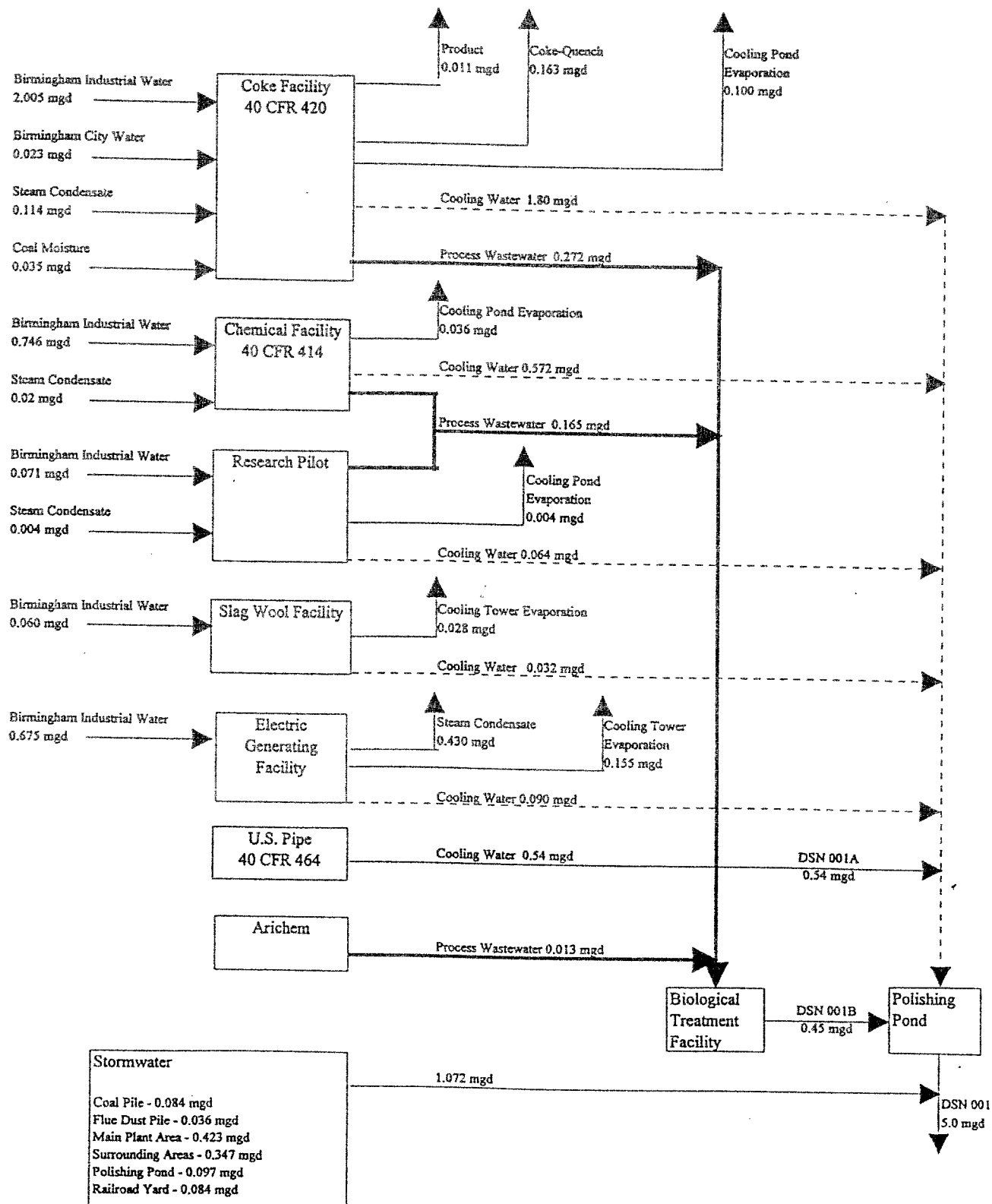
It is clear that if ADEM upgrades the classification of Five Mile Creek to LWF or to F&W, the financial burden associated with the additional level of technology needed for treatment would be significant. Actual project costs will vary from the estimates, and may be even more to comply with chronic toxicity limits.

ATTACHMENT 1

## **Process Flow Diagram**



Attachment to EPA Form 2C : Item IIA  
Water Balance and Line Flow Diagram



ATTACHMENT 2

## **Economic Worksheets**

Prepared 2-18-02

## Worksheet G

## Calculation of Total Annualized Project Costs

LWF-1

Capital Costs to be financed (Supplied by applicant)	<u>\$ 18,900,000 (1)</u>
Interest Rate for Financing (Expressed as a decimal)	<u>.10 (1)</u>
Time Period of Financing (Assume 10 years*)	<u>10 years (n)</u>
Annualization Factor** = $\frac{i}{(1+i)^{10} - 1} + i$	<u>.162745395 (2)</u>
Annualized Capital Cost [Calculate: (1) x (2) ]	<u>\$ 3,075,888 (3)</u>
Annual Cost of Operation and Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)***	<u>\$ 5,100,000 (4)</u>
Total Annual Cost of Pollution Control Project [ (3) + (4) ]	<div style="border: 1px solid black; padding: 2px;"><u>\$ 8,175,888 (5)</u></div>

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* Or see Appendix B for calculated annualization factors

\*\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

Prepared 2-18-02

## Worksheet G

## Calculation of Total Annualized Project Costs

LWF-2

Capital Costs to be financed (Supplied by applicant)	\$ 6,800,000 (1)
Interest Rate for Financing (Expressed as a decimal)	.10 (1)
Time Period of Financing (Assume 10 years*)	10 years (n)
Annualization Factor** = $\frac{i}{(1+i)^n - 1} + i$	(2) .162745395
Annualized Capital Cost [Calculate: (1) x (2)]	\$ 1,106,669 (3)
Annual Cost of Operation and Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)***	\$ 1,100,000 (4)
Total Annual Cost of Pollution Control Project [(3) + (4)]	\$ 2,206,669 (5)

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* Or see Appendix B for calculated annualization factors

\*\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

Prepared 2-18-02

## Worksheet G

## Calculation of Total Annualized Project Costs

F&amp;W-1

Capital Costs to be financed (Supplied by applicant)	<u>\$ 20,000,000 (1)</u>
Interest Rate for Financing (Expressed as a decimal)	<u>.10 (1)</u>
Time Period of Financing (Assume 10 years*)	<u>10 years (n)</u>
Annualization Factor** = $\frac{i}{(1+i)^{10} - 1} + i$	<u>.162745395 (2)</u>
Annualized Capital Cost [Calculate: (1) x (2) ]	<u>\$ 3,254,908 (3)</u>
Annual Cost of Operation and Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)***	<u>\$ 5,100,000 (4)</u>
Total Annual Cost of Pollution Control Project [ (3) + (4) ]	<u><u>\$ 8,354,908 (5)</u></u>

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* Or see Appendix B for calculated annualization factors

\*\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

Prepared 2-18-02

## Worksheet G

## Calculation of Total Annualized Project Costs

F&amp;W-2

Capital Costs to be financed (Supplied by applicant)	<u>\$ 8,200,000 (1)</u>
Interest Rate for Financing (Expressed as a decimal)	<u>.10 (1)</u>
Time Period of Financing (Assume 10 years*)	<u>10 years (n)</u>
Annualization Factor** = $\frac{i}{(1+i)^{10} - 1} + i$	<u>.162745395 (2)</u>
Annualized Capital Cost [Calculate: (1) x (2) ]	<u>\$ 1,334,512 (3)</u>
Annual Cost of Operation and Maintenance (including but not limited to monitoring, inspection, permitting fees, waste disposal charges, repair, administration and replacement)***	<u>\$ 1,100,000 (4)</u>
Total Annual Cost of Pollution Control Project [ (3) + (4) ]	<u>\$2,434,512 (5)</u>

\* While actual payback schedules may differ across projects and companies, assume equal annual payments over a 10-year period for consistency in comparing projects.

\*\* Or see Appendix B for calculated annualization factors

\*\*\* For recurring costs that occur less frequently than once a year, pro rate the cost over the relevant number of years (e.g., for pumps replaced once every three years, include one-third of the cost in each year).

Prepared 2-18-02

## Worksheet H

Calculation of Earnings Before Taxes  
With and Without Pollution Control Project Costs

## A. Earnings Without Pollution Control Project Costs

$$EBT = R - CGS - CO$$

Where: EBT = Earnings Before Taxes  
 R = Revenues  
 CGS = Cost of Goods Sold (including the cost of materials, direct labor, indirect labor, rent and heat)  
 CO = Portion of Corporate Overhead Assigned to the Discharger (selling, general, administrative, interest, R&D expenses, and depreciation on common property)

## Three Most Recently Completed Fiscal Years

	<del>19</del> 2000 (stub)	192000	1999	
R	\$ 62,366,093	\$107,744,840	\$ 100,616,000	(1)
CGS	\$ 51,430,366	\$ 91,387,952	\$ 77,781,000	(2)
CO	\$ 10,733,777	\$ 16,242,978	\$ 15,248,000	(3)
EBT [ (1) - (2) - (3) ]	\$ 201,950	\$ 113,910	\$ 7,587,000	(4)

Considerations: Have earnings before taxes changed over the three year period? If so, what would a "typical" year's EBT be? Please explain below.

Level of earnings before tax established in 2001 (stub) period is expected to likely continue or experience further decreases because of economic decline of domestic steel industry.

Prepared 2-18-02

## Worksheet I

Calculation of Profit Rates  
With and Without Pollution Control Project Costs

## A. Profit Rate Without Project Costs

$$PRT = EBT \div R$$

Where: PRT = Profit Rate Before Taxes  
EBT = Earnings Before Taxes  
R = Revenues

## Three Most Recently Completed Fiscal Years

	<u>1999</u> (stub):	<u>1999</u>	<u>1999</u>	
EBT [Worksheet H, (4)]	<u>201,950</u>	<u>113,910</u>	<u>7,587,000</u>	(1)
R [Worksheet H, (1)]	<u>62,366,093</u>	<u>107,744,840</u>	<u>100,616,000</u>	(2)
PRT = Calculate: [(1)/(2)]	<u>.003238137</u>	<u>.00105722</u>	<u>.075405502</u>	(3)

Considerations: How have profit rates changed over the three years?

They have declined significantly.

Is the most recent year typical of the three years? ☒ Yes ☐ No  
(If not, you might want to use an earlier year or years for the analysis)

How do these profit rates compare with the profit rates for this line of business? Please discuss below.

Downward trend beginning with fiscal 2000 typifies overall negative trend experienced by coke business, in response to decline in domestic steel industry.



## Worksheet K

## Calculation of Beaver's Ratio

$$BR = CF \div TD$$

Where: BR = Beaver's Ratio  
CF = Cash Flow  
TD = Total Debt

## Three Most Recently Completed Fiscal Years

~~19~~2000 (stub)    ~~19~~2000    1999

## Cash Flow:

Net Income After Taxes	\$ 282,719	\$ (73,784)	\$ 4,694,000	(1)
Depreciation	\$ 3,327,983	\$ 4,319,668	\$ 4,978,000	(2)
CF [Calculate: (1) + (2)]	\$ 3,610,702	\$ 4,245,884	\$ 9,672,000	(3)

## Total Debt:

Current Debt	\$ 14,930,148	\$ 13,776,914	\$ 12,846,000	(4)
Long-Term Debt	\$ 43,661,338	\$ 43,286,781	\$ 47,119,000	(5)
Total Debt	\$ 58,591,486	\$ 57,063,695	\$ 59,965,000	(6)

## Beaver's Ratio:

BR [(3) / (6)]	.061626	.074406047	.161294088	(7)
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## Considerations:

Is the most recent year typical of the three years? ☒ Yes ☐ No  
(If not, you might want to use an earlier year or years for the analysis)

Is the Beaver's Ratio for this discharger greater than 0.2? ☐ Yes ☒ No

Is the Beaver's Ratio for this discharger less than 0.15? ☒ Yes ☐ No

Is the Beaver's Ratio for this discharger between 0.2 and 0.15? ☐ Yes ☒ No

How does this ratio compare with the Beaver's Ratio for other firms in the same business?

Prepared 2-18-02

## Worksheet L

## Debt to Equity Ratio

$$\text{DER} = \text{LTL} \div \text{OE}$$

Where: DER = Debt/Equity Ratio  
 LTL = Long-Term Liabilities (long-term debt such as bonds, debentures, and bank debt, and all other noncurrent liabilities such as deferred income taxes)  
 OE = Owner Equity (the difference between total assets and total liabilities, including contributed or paid in capital and retained earnings)

## Three Most Recently Completed Fiscal Years

	<del>19</del> 2000 (stub)	<del>19</del> 2000	1999	
LTL	\$ 43,661,338	\$ 43,286,781	\$ 47,119,000	(1)
OE	\$ 6,421,497	\$ 9,716,080	\$ 17,911,000	(2)
DER [(1)/(2)]	6.799246033	4.455169266	2.630729719	(3)

## Considerations:

Is the most recent year typical of the three years? ☒ Yes ☐ No  
 (If not, you might want to use an earlier year or years for the analysis)

How does the Debt to Equity Ratio compare with the ratio for firms in the same business?

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## Reconciliation Statement for Record of Public Hearing Held

February 19, 2002, on Proposed Amendments to ADEM Administrative Code

Rules 335-6-10-.11 and 335-6-11-.02

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The Alabama Department of Environmental Management held a public hearing to consider proposed amendments to ADEM Administrative Code Rule 335-6-10-.11, Water Quality Criteria Applicable to Specific Lakes, and Rule 335-6-11-.02, Use Classifications.

The public hearing was held on February 19, 2002, to receive data, views, and arguments from interested persons regarding the proposed rules. Attendance at the hearing was not necessary, and written comments were accepted anytime during the public comment period, which was from December 23, 2001, through February 22, 2002, a total of 61 days. However, written comments had to be received by the Department by 5:00 p.m. on February 22, 2002, in order to be admitted into the public hearing record.

During the comment period, the Department received 12 written submittals (including those submitted at the hearing). At the hearing, there were 41 registrants, 10 of whom presented oral statements.

### **COMMENTS CONCERNING PROPOSED REVISIONS TO RULE 335-6-10-.11**

**Comment:** Several commenters expressed support for the proposed nutrient quality targets (expressed as chlorophyll *a* criteria) for Walter F. George (revision of previously established criterion), Thurlow, Yates, Martin, Pickwick, Wilson, Wheeler, Guntersville, Little Bear Creek, and Cedar Creek Lakes.

**Response:** No response is necessary.

**Comment:** One commenter expressed support for the proposed nutrient quality targets (expressed as chlorophyll *a* criteria) for Walter F. George, Thurlow, Yates, Martin, Pickwick, Wilson, Wheeler, Guntersville, Little Bear Creek, and Cedar Creek Lakes, however: (1) requested more details be provided to the public concerning the manner in which the Department developed the criteria; (2) requested clarification as to the discrepancy between EPA's 304(a) nutrient criteria recommendations and the nutrient criteria proposed by the Department for the subject lakes; (3) specifically requested information and data that supports the Department's claim that the proposed nutrient criteria will not lead to degradation of the reservoirs or downstream waters; and (4) questioned why chlorophyll *a* samples are to be collected at the deepest point in the reservoir when photosynthetic activity would seem more prevalent nearer the surface of the water.

**Response:** According to Section 303(c) of the Clean Water Act, States have the primary responsibility for adopting and/or revising water quality standards. As part of the nutrient criteria development process, the Department considered EPA's *Nutrient Criteria Technical Guidance Manual for Lakes and Reservoirs* (1<sup>st</sup> Edition, April 2000) and EPA's *Ambient Water Quality Criteria Recommendations for Lakes and Reservoirs* (December 2000) in developing site-specific criteria for the subject lakes. EPA's Section 304(a) criteria are not rules or regulations, but instead are recommendations meant to serve as a "starting point" for States in developing site-specific criteria to better reflect localized conditions of the various waterbodies. The proposed criteria for Lake Martin, Yates Lake, and Thurlow Lake of the Tallapoosa River Basin are indicative of existing levels based on water quality data collected by the Department as a part of the Reservoir Water Quality Monitoring Program. The proposed criteria for the Pickwick, Wilson, Wheeler, Guntersville, Cedar Creek and Little Bear Creek Lakes of the Tennessee River Basin are indicative of existing levels based on water quality data collected by the Tennessee Valley Authority as a part of their Reservoir Vital Signs Monitoring Program. The proposed chlorophyll *a* criteria for each of these lakes are intended to protect designated uses and are not expected to adversely affect upstream or downstream waters.

The nutrient quality targets necessary to maintain and protect the designated uses for these lakes are expressed as chlorophyll *a* criteria. The chlorophyll *a* criteria are represented by the mean of photic-zone composite samples collected monthly April through October (growing season), except for Guntersville, Wheeler, Wilson, and Pickwick Lakes, which have a growing season defined as April through September. Compliance monitoring samples are collected within the photic zone (upper water layer) of the water column, not at the deepest point of the water column. The language within Rule 335-6-10-.11 that reads "...as measured at the deepest point, main river channel, dam forebay..." is used to establish the physical location on the lake's surface where the composite sample is collected from the photic zone.

#### **COMMENTS CONCERNING PROPOSED REVISIONS TO RULE 335-6-11-.02**

Several comments made relative to Rule 335-6-11-.02 addressed provisions of the rule that are not proposed for revision. These comments are accepted as important input to Alabama's water quality standards program and will be considered during the current triennial review process, but are not relevant to this rulemaking proposal. An example of such a comment would be a recommendation to assign a different water use classification (such as Outstanding Alabama Water) to a stream segment currently classified Fish and Wildlife, when no change in classification has been proposed by the Department at this time.

Comments that are relevant to this rulemaking proposal are summarized and addressed below.

**Comment:** A number of commenters expressed support for the proposal to add the Swimming and Other Whole Body Water-Contact Sports classification to two segments of the Coosa River (Lay Lake). The two segments are located within the portion of Lay Lake from Southern Railroad Bridge (1<sup>1</sup>/<sub>3</sub> miles above Yellow Leaf Creek) to Logan Martin Dam.

**Response:** No response is necessary.

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply to Fish and Wildlife for Shirtee Creek (from Tallaseehatchee Creek to its source).

One commenter opposed the proposed upgrade, suggesting that: (1) non-point sources of pollution would not allow Shirtee Creek to consistently meet a Fish and Wildlife use, and (2) NPDES permit limits required under the proposed Fish and Wildlife classification would require the City of Sylacauga (J. Earl Ham WWTP) to add sand filtration and ultraviolet disinfection to its facility, at a cost of two million dollars, creating a financial burden to the community of Sylacauga.

One commenter objected to the proposed upgrade because: (1) there is insufficient data to support a Fish and Wildlife (F&W) classification, (2) the upgrade would result in financial burden to the community as well as hinder growth within the Sylacauga area, and (3) the proposed F&W classification could result in more stringent permit limits for IMERYS Carbonates, LLC, which could cause an economic impact to the facility.

One commenter did not oppose the upgrade, but stated: (1) the upgrade of Shirtee Creek to F&W would impose significant costs on Avondale Mills due to more stringent permit requirements, and (2) it is possible that Avondale Mills could incur the costs of upgrading its treatment system and still be in violation of the new permit requirements due to reasons beyond the control of Avondale or ADEM.

**Response:** Section 101(a)(2) of the Clean Water Act sets as a national goal, wherever attainable, "...water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water..." When States establish designated uses that are not fully consistent with the "fishable/swimmable" goal, they must conduct a use attainability analysis (UAA) to determine the highest achievable uses of a waterbody. The Federal Water Quality Standards Regulation (40 CFR 131.3) defines a use attainability analysis as a structured scientific assessment of the factors affecting the attainment of a use, which may include physical, chemical, biological, and economic factors as described in Section 131.10(g). As indicated below, at least one of the six factors must be used as a basis for designating uses less than EPA's "fishable/swimmable" goal.

***Applicable Factors for Designating Waters Less than the "Fishable/Swimmable" Goal (40 CFR Part 131.10(g))***

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or
- (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of

sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude the attainment of aquatic life protection uses; or

(6) Controls more stringent than those required by Sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

After thorough evaluation, ADEM believes the proposed Fish and Wildlife (F&W) use classification is attainable for Shirtee Creek. ADEM bases its decision on the fact that none of the above six factors can be used to justify a designated use less than the F&W classification, which EPA has approved as consistent with the "fishable/swimmable" goal.

The reclassification of Shirtee Creek from Agricultural and Industrial Water Supply to Fish and Wildlife will result in more stringent permit requirements for the City of Sylacauga (J. Earl Ham WWTP) and Avondale Mills wastewater treatment facilities. However, based on results of wasteload allocation modeling, evaluation of each facility's current treatment performance, and analysis of treatment alternatives available, it appears each facility is capable of meeting the F&W permit limitations without causing substantial and widespread economic impact. The Department is committed to working with each of these facilities in order to minimize additional treatment facility costs. Upgrading Shirtee Creek to F&W will not result in any changes to permit limitations for IMERYS Carbonates, LLC, since that facility already discharges to an F&W stream.

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply to Fish and Wildlife for Pepperell Branch (from Sougahatchee Creek to its source).

**Response:** No response is necessary.

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply to Fish and Wildlife for a segment of Valley Creek (from Warrior River to Blue Creek).

**Response:** No response is necessary.

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply to Limited Warmwater Fishery for a segment of Valley Creek (from Blue Creek to its source).

One commenter opposed the proposed upgrade for a segment of Valley Creek to Limited Warmwater Fishery, and instead recommended it be classified Fish and Wildlife.

**Response:** In December 2001, the Department prepared a use attainability analysis (UAA) for the subject segment of Valley Creek. The UAA documents the Fish and Wildlife use classification is not attainable due to the following 40 CFR Part 131.10(g) factors:

- Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; and
- Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude the attainment of aquatic life protection uses.

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply (A&I) to Limited Warmwater Fishery (LWF) for a segment of Village Creek (from Bayview Lake to its source).

One commenter opposed the upgrade of Village Creek because: (1) the LWF designation provides limited protection of water quality and aquatic life, and the F&W use classification is reasonably attainable so long as adequate pollution control measures are implemented, and (2) the F&W designation will assist in efforts to recover the flattened musk turtle (threatened species) and preclude a listing of the Black Warrior waterdog as an endangered species.

One commenter opposed the upgrade: (1) contending the present uses described for Village Creek (i.e., LWF or A&I) do not correctly describe the present utilization of the waters (claiming the waters of Village Creek are not presently used for agricultural irrigation, livestock watering, industrial cooling and process water supplies); and (2) recommending the water quality criteria associated with the Swimming and Other Whole Body Water-Contact Sports (S) classification be applied to Village Creek.

One commenter opposed the proposed upgrade of the Village Creek segment to Limited Warmwater Fishery, and instead recommended it be classified Fish and Wildlife.

**Response:** In December 2001, the Department prepared a use attainability analysis (UAA) for the subject segment of Village Creek. The UAA was made available to the public for review and comment as part of the public hearing process. Results of the use attainability analysis indicate the following applicable factors are preventing the 23.3-mile segment of Village Creek from attaining ADEM's Fish and Wildlife use classification.

- Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; and
- Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude the attainment of aquatic life protection uses.

The physical, chemical, and biological data collected by ADEM, EPA, and USGS confirm the above factors are indeed valid and supportive of the proposed Limited Warmwater Fishery classification for Village Creek. The degraded physical conditions of upper Village Creek can be attributed primarily to the intense urbanization of the watershed, which has introduced large amounts of impervious landscape, such as roads, parking lots, airport runways, and buildings throughout the watershed. The impervious landscape coupled with the limited amount of trees, shrubs, and other vegetation allow flooding to occur routinely during rain events. Over the years, physical alterations of Village Creek, such as culverts, dredging, channelization, and rerouting have impacted the stream by offering little, if any, habitat for a healthy aquatic community. Chemical characteristics of Village Creek have also been impacted due to urbanization of the watershed. Water quality data shows nutrient enrichment, dissolved oxygen swings, and elevated bacteria levels from monitoring stations located throughout the upper reaches of Village Creek, both upstream and downstream of permitted discharges. Fecal coliform levels are consistently elevated above those associated with incidental water contact and recreation under the F&W use classification during June-September. EPA's recreational use analysis<sup>1</sup> demonstrates the correlation between bacteria levels and precipitation in Village Creek, a pattern that indicates a strong relationship to nonpoint sources.

Leaking sewer lines, domestic animal and wildlife populations, and leaking septic tanks are nonpoint sources of both nutrients and bacteria to Village Creek. Sewer overflows driven by precipitation are also a source of both nutrients and bacteria to Village Creek. Jefferson County is expected to expend \$800 million to resolve sewer overflows and replace leaking sewer lines in the Birmingham area. It is anticipated that this substantial capital investment will improve water quality. However, it is not currently possible to determine the percent contribution from the known categories of nonpoint sources, nor is it possible to project the degree of success in terms of measurable water quality improvements that will result from ongoing efforts to resolve sewer overflows and replace leaking sewer lines. The available information on the magnitude of nutrient and bacteria levels, the variety of sources, and the physical characteristics of the waterbody indicates the F&W use classification is not attainable, and the highest attainable use is

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<sup>1</sup> EPA's Recreational Use Attainability Analysis for Village and Valley Creeks, December 2001.



LWF. Therefore, F&W is not proposed at this time as a result of a combination of human-caused conditions (that may not be feasible to fully remedy) and natural physical conditions of the watershed unrelated to water quality (e.g., high water table).

**Comment:** Several commenters expressed support for the proposed upgrade from Agricultural and Industrial Water Supply to Fish and Wildlife for a segment of Fivemile Creek (from Newfound Creek to Ketona (US Hwy 79 Bridge)).

One commenter opposed the upgrade, suggesting that: (1) total dissolved solids, including chlorides and sulfates, may present a significant issue in Sloss Industries' ability to achieve chronic effluent toxicity requirements under both LWF and F&W scenarios; (2) EPA's economic analysis failed to include the removal of salt for toxicity control, therefore the cost incurred by Sloss Industries to comply with the proposed LWF and F&W permit limitations was underestimated; (3) the relationship between Sloss Industries and Walter Industries (parent company) was inaccurately depicted in EPA's economic analysis (the commenter agrees that Sloss Industries is a wholly owned subsidiary of Walter Industries, but claims that: (a) Sloss is an independent operating entity that is solely responsible for its own environmental costs and liabilities, (b) Walter Industries cannot be responsible for these costs, (c) the appropriate economic comparison is against Sloss Industries' revenues, not Walter Industries' revenues, and (d) when comparing treatment costs to Sloss' financial statements alone, an economic burden to Sloss, greater than EPA's guidelines, is established); (4) compliance with LWF or F&W limits would pose a significant financial burden to Sloss Industries; and (5) the relationship between Sloss Industries and U.S. Pipe was inaccurately depicted in EPA's economic analysis (the commenter states that: (a) U.S. Pipe is a wholly owned subsidiary of Walter Industries and purchases foundry coke from Sloss Industries, (b) if Sloss were forced to raise the price of foundry coke to cover pollution control costs associated with the upgrade, the price increase would be significant, (c) currently there is no legal obligation for U.S. Pipe to purchase Sloss coke on a long-term basis, and (d) the effects on Sloss were understated in EPA's assessment).

**Response:** Section 101(a)(2) of the Clean Water Act sets as a national goal, wherever attainable, "...water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water..." When States establish designated uses that are not fully consistent with the "fishable/swimmable" goal, they must conduct a use attainability analysis (UAA) to determine the highest achievable uses of a waterbody. The Federal Water Quality Standards Regulation (40 CFR 131.3) defines a use attainability analysis as a structured scientific assessment of the factors affecting the attainment of a use, which may include physical, chemical, biological, and economic factors as described in Section 131.10(g). As indicated below, at least one of the six factors must be used as a basis for designating uses less than EPA's "fishable/swimmable" goal.

***Applicable Factors for Designating Waters Less than the "Fishable/Swimmable" Goal (40 CFR Part 131.10(g))***

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

- (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
- (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- (5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude the attainment of aquatic life protection uses; or
- (6) Controls more stringent than those required by Sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

After thorough evaluation, ADEM believes the proposed Fish and Wildlife (F&W) use classification is attainable for this segment of Fivemile Creek. ADEM bases its decision on the fact that none of the above six factors can be used to justify a designated use less than the F&W classification, which EPA has approved as consistent with the "fishable/swimmable" goal.

The reclassification of Fivemile Creek from Agricultural and Industrial Water Supply to Fish and Wildlife will result in more stringent permit requirements for Sloss Industries, and additional treatment controls will be necessary. However, a feasibility study of the treatment control alternatives available to Sloss Industries demonstrates that: (1) the F&W permit limitations can be met by the facility, and (2) the incremental costs of meeting the F&W permit limits (over and above the costs of meeting the A&I permit limits) will not result in substantial and widespread economic impact. With respect to costs, the Department bases its decision on EPA's Economic Impact Analysis, dated December 2001, and EPA's Response to Sloss Industries' Comments, dated March 2002. (See Attachment A).

## **ATTACHMENT A**

**Economic Analysis Summary for Sloss Industries, Birmingham, Alabama  
EPA Headquarters, December 2001**

**EPA's Response to Sloss Industries' Comments on the Proposed Rule to Upgrade Fivemile  
Creek from A&I to F&W, March 2002**

## **Economic Analysis Summary for Sloss Industries, Birmingham, Alabama EPA Headquarters, December 2001**

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Available data and information for Sloss Industries indicate that effluent limits to meet the baseline A&I use classification for Fivemile Creek would be more stringent than the facility's current permit limits. Sloss would need to reduce concentrations of metals, Polyaromatic hydrocarbons (PAHs), ammonia, and cyanide in its effluent to meet the A&I-based limits. EPA estimated that the facility would need chemical oxidation, chemical precipitation, and a storm water detention basin (for a discharge to nearby Village Creek). The annual cost of these controls (annualized at 7% over 20 years) totals \$2.59 million. These controls would also enable Sloss to meet projected limits based on a F&W use classification.

The facility's own estimates of necessary controls indicate that a scenario including reverse osmosis and other process controls would be sufficient to comply with a F&W use classification. Annualizing Sloss's estimated costs for this scenario (at 7% over 20 years) results in an annual cost of \$1.89 million, which is lower than EPA's cost estimate.

Sloss, which produces specialty chemicals, slag wool fiber and derivative fiber products, and coke for both blast furnaces and foundries, is a subsidiary of Walter Industries, Inc. According to Walter Industries' 2000 Annual Report, approximately 57% of the foundry coke produced by Sloss was sold to another Walter Industries subsidiary -- United States Pipe and Foundry Company, Inc. (U.S. Pipe). Walter Industries has identified its U.S. Pipe subsidiary as one of two core businesses that will be a part of its future operating profile (Seven-Month Transition Period Report for period ending December 31, 2000).

According to the 2000 Annual Report, Walter Industries had net sales and revenues totaling \$1.9 billion in 2000 (fiscal year ending May), \$1.9 billion in 1999, \$1.8 billion in 1998, \$1.5 billion in 1997, and \$1.5 billion in 1996. For the three years ended May 31, 2000, 1999, and 1998, the U.S. Pipe subsidiary had net sales and revenues of \$480.2 million, \$460.7 million, and \$426.4 million, respectively. The natural resources operations of subsidiary Jim Walter Resources, Inc. had net sales and revenues of \$238.6 million, \$296.3 million and \$354.1 million, respectively, for the three years ended May 31, 2000, 1999, and 1998, including \$1.0 million, \$5.1 million and \$5.8 million, respectively, to Sloss.

Thus, although Sloss' net revenues and sales are not sufficient to cover potential annual control costs of \$1.89 million, these costs represent 0.4 % of the net sales and revenue of U.S. Pipe in 2000, and 0.1% of the net sales and revenue of Walter Industries in the same year. Based on this preliminary information including the vertical linkage between U.S. Pipe and Sloss, it appears that the cost of pollution controls could be passed through to these entities (U.S. Pipe or Walter Industries) which could easily absorb the costs.

## **EPA's Response to Sloss Industries' Comments<sup>2</sup> on the Proposed Rule to Upgrade Fivemile Creek from A&I to F&W, March 2002**

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**Comment 1:** A section describing the parameters of concern and associated effects on the ability to comply with the chronic toxicity limit for either LWF or F&W also is included. Process monitoring data upstream of Sloss Industries indicate that dissolved solids, including chlorides and sulfates, may present a significant issue in achieving chronic effluent toxicity limitations for either LWF or F&W classifications. EPA's cost estimate was based on treatment technologies focused on cyanide for meeting chronic toxicity limitations. Because of EPA's failure to include the removal of salt for toxicity control, its economic analysis significantly understates Sloss' cost of compliance. In addition, Sloss' cost of compliance with these chronic toxicity limitations, as outlined in the attached memorandum, may be understated because of the uncertainty as to whether total dissolved solids (TDS) removal alone will allow Sloss to meet the limitations.

**Response 1:** EPA does not have any data indicating that total dissolved solids (TDS) are the cause of effluent toxicity at Sloss Industries; nor did the commenter provide such data. EPA identified cyanide and Polyaromatic hydrocarbons (PAHs) as the primary contributors to effluent toxicity at Sloss based on a review of discharge data for 17 organic and inorganic toxic chemicals from EPA's Permit Compliance System (PCS). TDS can result in increased toxicity levels but, based on the PCS data, it appears that permitted and monitored organic and inorganic chemicals are currently the main cause of toxicity. EPA believes that upstream process monitoring data (internal monitoring point) cannot be directly used to assess the discharge quality since it does not represent the final effluent quality of the main discharge DSN 001.

The PCS data also indicated that Sloss is not in compliance with its existing NPDES permit limits for ammonia, PAHs, and lead, and would not be in compliance with the projected A&I limits for cyanide and copper. EPA believes that chemical oxidation and chemical precipitation would enable Sloss to comply with its existing limits, A&I limits, and limits associated with the proposed rule. In addition, these treatment technologies would incidentally remove other toxic pollutants present in the discharge. Therefore, based on the available data, EPA believes that its estimates are reasonable estimates of the cost of compliance for Sloss.

**Comment 2:** The relationship between Sloss Industries and Walter Industries has been clarified. Although Sloss is a wholly owned subsidiary of Walter Industries, as an independent operating entity, Sloss is solely responsible for its own environmental costs and liabilities. Walter Industries cannot be responsible for these costs; thus, the appropriate economic comparison is against Sloss Industries' revenues. When this proper comparison is made, it is clear that the burden from upgrading is greater than EPA's guidelines, outlined in Guidance for Water Quality Standards-Workbook, would consider acceptable.

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<sup>2</sup> CH2M Hill provided written comments on the proposed rules on behalf of Sloss Industries, February 22, 2001.

**Response 2:** Although Walter Industries may chose not to assist its subsidiary with pollution control costs, there is no information presented to indicate that the company would not absorb the costs in a manner similar to the recent operating losses of its Natural Resources business segment, which had a net operating loss of \$37 million in the fiscal year ending May 31, 1999, and a loss of \$182 million in fiscal year 2000 (Form 10K/A, Amendment #1, filed January 28, 2002, accessed at <http://www.edgar-online.com>). As discussed above, with respect to evaluating the impact of pollution control costs, EPA (1995) guidance recognizes that it may be appropriate to evaluate the relevant measures for the parent company. For Sloss, the commenter's analyses of primary and secondary measures of financial health do not substantiate that pollution control costs would result in substantial impacts because the entity is already not profitable and a high bankruptcy risk (see response to Comment 6).

**Comment 3:** The relationship between Sloss Industries and U.S. Pipe has been clarified. Although U.S. Pipe is also a wholly owned subsidiary of Walter Industries, it purchases foundry coke from other sources. If Sloss Industries were forced to raise the prices for foundry coke to cover pollution control costs, the price increase would be significant. Currently, there is no legal obligation for U.S. Pipe to purchase Sloss coke on a long-term basis. Thus, the effects on Sloss were understated in EPA's assessment.

**Response 3:** This comment does not contradict or detract from the information EPA provided (based on information on Walter Industries' website, <http://www.walterind.com>):

Sloss Industries, located in Birmingham, Alabama, is a subsidiary of Walter Industries, Inc. belonging to a group of businesses serving highly specialized markets. Sloss Industries produces specialty chemicals, slag wool fiber and derivative fiber products, and coke for both blast furnaces and foundries. For the year ended May 31, 2000, approximately 57% of the foundry coke produced by Sloss was sold to U.S. Pipe. Walter Industries has identified its U.S. Pipe subsidiary as one of two core businesses that will be a part of Walter Industries' future operating profile.

The fact that there is no long-term legal obligation for U.S. Pipe to purchase Sloss coke does not prevent Walter Industries from retaining (subsidizing) this subsidiary to supply U.S. Pipe's coke. Indeed, given the financial analysis provided by the commenter, there does not appear to be incentive for Walter Industries to own Sloss other than as a reliable source of coke for U.S. Pipe (see response to Comment 6).

**Comment 4:** A section evaluating the economic effects on Sloss Industries also has been added. This information was developed using EPA's Economic Guidance for Water Quality Standards-Workbook. Using the worksheets in Chapter 3 of this guidance document, a Profit Test was performed to measure the effect on Sloss Industries' earnings if additional pollution control were to be required. This Profit Test clearly shows that compliance with LWF or F&W limits would pose a significant financial burden, in excess of the burden that EPA considers acceptable for upgrade of streams.

**Response 4:** The commenter has misinterpreted EPA's economic guidance. If the discharger is already not profitable or it exhibits substantial bankruptcy risk, it is likely to discontinue operations in the near term regardless of incremental compliance costs and, therefore, may not claim that substantial impacts occur due to compliance with water quality standards (U.S. EPA, 1995). As shown in response to Comment 6, the commenter's analyses of primary and secondary measures of financial health do not substantiate that pollution control costs would result in substantial impacts because the entity is already not profitable and a high risk for bankruptcy.

**Comment 5:** Because the economic burden on Sloss is in excess of EPA's guidelines for consideration of an upgrade, Sloss requests that ADEM not upgrade Fivemile Creek from its present classification of A&I.

**Response 5:** See response to Comment 4.

**Comment 6:** Using these estimated costs, EPA worksheets taken from the Economic Guidance for Water Quality Standards-Workbook have been completed (Attachment 2, Economic Worksheets)<sup>3</sup>. Using these worksheets, a Profit Test was performed with and without the cost of added controls. This Profit Test, also described in the Workbook, measures the effect on the discharger's earnings if additional pollution control is required: Profit Test=Earnings Before Taxes/Revenues. For Sloss Industries, the following data are applicable for CY 2001 and indicates that Sloss Industries is only marginally profitable as is: Profit Test (Without Controls)=\$201,905/\$62,366,093=+0.0033=+0.03%.

The annualized capital and operating costs using a 10% interest financing rate over a 10-year period were then calculated. The finance rate is based on Sloss Industries expected loan rate. Ten years is used based on the EPA Workbook. Table 3 presents the annualized cost for the LWF and F&W alternatives determined using Worksheet G, which is expected to be between \$2,200,000 and \$8,175,000, depending on which treatment alternative is selected. Assuming the best-case scenario financially-i.e., upgrade of the existing biological pretreatment facility to meet LWF limits-the profit rate for Sloss Industries would be as follows: Profit Test (With Controls) - Earnings Before Taxes with Control Costs/Revenues=(\$201,950-\$2,200,000)/\$62,366,093=-0.032=-3.0%.

This test, which is described in the Workbook as the single best indicator to be used in determining the financial effect of additional pollution control equipment, clearly indicates that Sloss Industries would no longer be profitable, and total shutdown or the closing of a production line would be likely. Section 1.1. of the EPA Guidance document states that economic considerations can be taken into account if the applicant, in this case Sloss Industries, demonstrates that important economic development would be prevented. Sloss Industries currently employs 400 full-time staff who would be affected were Sloss Industries to shut down.

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<sup>3</sup> EPA's Economic Worksheets prepared by Sloss Industries are not provided as part of this reconciliation statement.

**Response 6:** The U.S. EPA (1995) Interim Economic Guidance for Water Quality Standards Workbook noted by the commenter describes the analyses required to demonstrate that meeting the fishable/swimmable goals of the Clean Water Act will cause substantial and widespread economic and social impacts. According to this Guidance, a financial analysis of the discharger should be conducted to determine if the capital and operating and maintenance (O&M) costs of pollution control will have a substantial impact. Demonstration of substantial financial impacts is not sufficient reason to modify a use or grant a variance from water quality standards, however. Rather, the applicant must also demonstrate that compliance would create widespread socioeconomic impacts on the affected community. The types of analyses for evaluating the potential for substantial and economic impacts depends on whether the entity providing the pollution control is privately or publicly owned.

For private sector entities, the test of substantial economic impacts involves primary and secondary measures of financial health. The primary measure is impact on before-tax profits; secondary measures comprise three financial ratios: liquidity, solvency, and leverage. EPA (1995) specifies that ratios and profit impact must be calculated for individual firms (or for the parent firm, if applicable), and compared to national industry averages. If the discharger is already not profitable, it is likely to discontinue operations in the near term regardless of incremental compliance costs and, therefore, may not claim that substantial impacts occur due to compliance with water quality standards (U.S. EPA, 1995).

In analysis of the primary measure of financial health (profit test), the commenter calculated earnings before taxes (EBT) before consideration of pollution control costs on Worksheet H. Worksheet H shows EBT for Sloss Industries of \$201,950 in 2001 (stub), \$113,910 in 2000, and \$7.6 million in 1999, and states that "Level of earnings before tax established in 2001 (stub) period is expected to likely continue or experience further decreases because of economic decline of domestic steel industry." Then, the commenter calculated the profit rate before taxes (PRT) without consideration of project costs on Worksheet I. Worksheet I shows PRT (EBT/Revenues) for Sloss Industries of 0.003 in 2001 (stub), 0.001 in 2000, and 0.075 in 1999. Worksheet I also states that profit rates have "declined significantly" over the last three years, and the "downward trend beginning with fiscal 2000 typifies overall negative trend experienced by coke business, in response to decline in domestic steel industry." Thus, Sloss's profit margin may decline further regardless of whether the facility incurs pollution control costs.

According to EPA's (1995) guidance, if a discharger is already in trouble (either not profitable or profits far below industry norms), it may not claim that substantial impacts would occur due to compliance with water quality standards. Data from Dun & Bradstreet's annual *Industry Norms and Key Business Ratios* shows a profit ratio (gross profit/net sales) in Standard Industrial Classification (SIC) 3312, Blast Furnaces and Steel Mills, of 0.29. Sloss' ratio of 0.003 is much below this average. Gross profit and net sales are not reported by quartile. However, based on a comparison to return on sales (net profit after taxes/annual net sales), which would be lower than the profitability ratio calculated by the commenter because it reflects after tax earnings, Sloss would fall in the lower quartile for the industry (return on sales for the lower quartile is 0.1).



In analysis of secondary measures of financial health, the commenter calculated solvency and debt to equity ratios. Solvency is a measure of how easily an entity can pay its fixed and long-term liabilities. EPA (1995) recommends a Beaver's Ratio, which is an indicator of bankruptcy. An entity is considered solvent if its Beaver's Ratio is greater than 0.20. A ratio of less than 0.15 indicates insolvency and a high bankruptcy risk. On Worksheet K, the commenter shows Beaver's Ratios (Cash Flow/Total Debt) of 0.06, 0.07, and 0.16 for the years 2001 (stub), 2000, and 1999, respectively. Thus, prior to incurring pollution control costs, Sloss Industries is insolvent and a high risk for bankruptcy.

In Worksheet L, the commenter shows debt to equity (long-term liabilities /owner equity) of 6.8 for 2001 (stub), 4.5 for 2000, and 2.6 for 1999. This ratio provides insight into how much debt is held relative to equity, whether additional debt can be obtained, and whether existing debt can be paid. In general, total liabilities shouldn't exceed net worth (100%) since in such cases creditors have more at stake than owners (Dun & Bradstreet, Industry Norms and Key Business Ratios, 2000-2001). The rapid increase in this ratio value and its extreme value in 2001 indicate substantial debt problems, which alone endanger the business' viability as well as its ability to obtain financing for emissions controls. Based on Dun & Bradstreet data, a ratio of 6.8 exceeds the 1.4 ratio for the lower quartile of SIC 3312 [total liabilities to net worth (275.6%) minus current liabilities to net worth (131.6%) indicate a long-term debt to equity ratio for the lower quartile of 144%, or 1.4].

In summary, the commenter's analyses of primary and secondary measures of Sloss' financial health do *not* substantiate that pollution control costs would result in substantial impacts because the entity is already not profitable and a high bankruptcy risk. Since impacts to Sloss cannot be said to be substantial, they also cannot be both substantial *and* widespread. (EPA's guidance indicates that not only must a discharger show that the impacts of pollution controls must be substantial, but they must also have a widespread impact on the community.) Therefore, considerations related to employment are not necessary. However, Birmingham, Alabama had an unemployment rate of 3.7% in January, 2002, which is well below the national average of 6.3% (based on data from the Bureau of Labor Statistics, <http://www.bls.com>). The labor force estimate for December 2001 was 485,000 people. Thus employment at Sloss (400 persons) represents 0.08% of the labor force in the metropolitan statistical area.